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CLAY LANCASTER is Ware Librarian and a Lecturer in Near and Middle Eastern Art at Columbia University. He has been greatly interested in comparative studies and has completed a manuscript on *Far-Eastern Architecture and the Modern American House* and is now working on a companion volume entitled *Oriental Contributions to Art Nouveau*. These researches are the result of his persuasion that art and architectural historians have not manifested an awareness of Oriental forms equal to that which Western architects and artists have evidenced in their actual creations. The present article was undertaken when he noted the lack of fundamental information on building design of the Shang and Chou periods in contrast to the amount known about their literature and artifacts.

THE ORIGIN AND FORMATION OF CHINESE ARCHITECTURE[1]

Simultaneous with the emergence of the Chinese people appeared Chinese architecture. When the Shangs—the earliest ancestors of the modern Chinese about whose culture anything definite is known through excavated artifacts—built their capital in northern Honan Province approximately thirty-three centuries ago, thus stepping from the dim hearsay of legend into the brighter light of archaeological documentation, their architecture already had acquired many of the characteristics of modern Chinese buildings. This architecture went into Korea during ancient times; and it was taken over bodily by the Japanese beginning in the middle of the sixth century A. D. Also, some influence from it was felt in the countries to the south and west, being particularly strong during the latter half of the twelfth and the thirteenth centuries.[2] In Europe it was a recurring stylistic vogue (*chinoiserie*) from the end of the seventeenth century on; and the more advanced contemporary American house is an adaptation of the fundamental principles of Chinese architecture (mostly come through Japanese sources) rather than a mere copying of its decorative elements. The principal features are: modular skeletal construction (the structural system of every contemporary skyscraper), flexibility of plan, wide overhanging eaves, banks of sliding windows for enclosing space or else opening it up to the outdoors, a minimizing of furniture that tends to be built into the architecture, and a blending of architecture with its landscape setting.[3] Although the antiquity of Chinese architecture may be rivaled, or surpassed, by that of India or Egypt, it is unique in the standard of vitality that it has maintained throughout the centuries, and in its having been built primarily for living, practical needs—rather than for worship or entombment as in India and Egypt.

The district on the Huan River, eighty miles north of the Chinese Yellow River, that has been called An-yang for about twenty-two hundred years, was the site of at least two neolithic cultures, the second of which may have survived until the coming of the Shangs. The neolithic peoples had lived in crude pit-dwellings entered through the roof, averaging a diameter of ten feet and a depth of six, made possible by the peculiar property of the loess soil to stand in vertical walls.[4] No doubt the roofing framework was timber, covered with sod or thatch. A diagram of a cross-section of the pit-dwelling survives in the ancient form of the Chinese character *hsüeh* designating a den or underground house (*Fig. 1*). The vertical walls of the pit curve into the ceiling, and the flat central section of the roof is supported by bracket-like beams protruding from the upper part of the wall. Neolithic people all over north China resided in shelters of this type, nor was it unlike that of many still in use in China, and in certain regions of Turkestan, eastern Siberia, and some southernmost islands of the Pacific Polynesian group.

The Chinese people who, under the supposedly powerful, although somewhat legendary, ruler P'an-kêng, first occupied this region from about 1300 B. C. probably lived in pit-dwellings for a short time; but soon they were erecting structures that showed evidence of having had a considerable period of previous development. There is a tradition that these people had moved their capital five times during the previous four centuries; their dynasty—the Shang, or Shang-yin—at present is considered to have sprung from its predecessor, the Hsia, through internal revolt about 1523 B.C.[5] Thus there would have been a building inheritance of several centuries behind the early Chinese buildings at An-yang, political vicissitudes not having affected the steady growth of structural achievements.

The city built by the Shangs was situated on the Huan two miles northwest of the neolithic village, and on a similar, and larger, promontory formed by a bend in the river. In all likelihood one side of it was protected by an earth wall, as in the case of the earlier village. Called *Ta-i-Shang*, "Great City of Shang," it covered a considerable area. One defined section, on which are located the foundations of buildings of considerable size thought to be the remains of the royal palace, is about sixteen acres in extent. The more important buildings were oriented to magnetic north, indicating that the ancient Chinese knew about the attraction of the loadstone on the compass, which gave an orderly arrangement in the geometrical layout of this early capital.

Like Chinese buildings of the recent dynasties, the Shang structures were built upon raised terraces; the early ones, however, were not faced with brick or stone, but were made entirely of pisé or rammed earth. The system was to erect a board frame, into which loose dirt was thrown and pounded down, layer upon layer, until the desired height was reached. The platform was slightly larger than the area of the building that was to be erected upon it, in order to provide a firm base for it. The posts supporting the superstructure were set upon egg-shaped stones or dome-shaped bronze plates embedded in the platform to prevent the sinking of these weight-bearing members. Although, during the excavations of 1928, a number of stones were found in place, the charred stump of one column was the only remaining fragment of any superstructure.

The largest foundation platform unearthed during the excavations of 1928 measured twenty-six feet wide by ninety-two long (*Fig. 2*). The building that stood on it was composed of a main pavilion two-thirds the length of the platform, with a wing that was somewhat narrower on the north end. The remains of foundations for steps indicate that the entrance faced east, and that it was centered on the main hall. The arrangement of the pillar-base stones is interesting inasmuch as it shows that the columns were spaced more closely together at the ends and corners, with wider bays on the long sides, like the later Chinese buildings. Columns held up the ridgepole running the length of the building; yet the central area of the hall was unobstructed by posts, which meant that here the ridgepole spanned a distance greater than thirty feet.

The inscribed divination (oracle) bones of the period give us a number of pictographs essentially alike, that represent the principal components of a Shang building seen in elevation. Consisting of a square resting on a wide, low rectangle, and capped by an overhanging triangle or trapezoid (*Fig. 3*), we recognize the end or front façade of a building made up of wall, platform and roof. Some variations show the middle element decorated geometrically, which may be interpreted as representing ornamentation on the screen walls of the building.

The meaning of these pictographs has not been satisfactorily determined. It has been suggested that it was an ancient form of the modern character *shih*, for "house" or "room"; but *shih* can be traced to a pictograph of a different form, showing a person within a building with a slanting roof (*Fig. 4a*). Another architectural pictograph is the Shang version of *fang* (*Fig. 4b*), a synonym for *shih*, which also appears within the outline of a building, making *kung*, "palace" (*Fig. 4c*), that is, a building of several rooms, or perhaps stories.[6] Still other characters are valuable because they suggest the variety of architectural types employed by the Shangs. One, that is related to the above, is *tsung*, "temple" or "tomb," often found in combination with *ya*, which possibly meant a cross-shaped tomb (*Fig. 4d*).[7] Another seems to be the drawing of a tower surmounting a dual-leafed gateway to a city (*Fig. 4e*). The gateway being the most characteristic feature, it stood as a synecdoche for *ching*, "capital" (the "king" in Peking, Nanking, etc.). This was the most vulnerable point of attack; and the tower afforded first an elevated lookout for a sentinel to detect an approaching enemy, and second a protected station for a defensive guard, from where to shower missils down upon the attackers.[8] Also, *kao*, "high," undoubtedly originally represented a lone tower (*Fig. 4f*). Isolated observatories were the nearest structural expression of verticality erected by the Shangs, and thus furnished a suitable model for the character referring to anything of height. Finally, we know through inscribed characters that the Shang buildings were equipped with doors and windows: we find *mên*, "door" (*Fig. 4g*); and the antecedent of *hsiang*, "toward" or "opposite" (*Fig. 4h*), depicts the window in the elevation opposite the entrance.*cf.*[6] These pictographs, although showing the range of types, are limited to the barest outlines, and therefore give only a sketchy notion of how Shang buildings looked.

One species of Shang bronze vessel has a bearing upon architecture: this is the wine container

called *i* 彝 since ancient times, and designated *fang-i* 方彝, "rectangular ceremonial-vessel," during the Sung Dynasty. A cubic vessel with a pyramidal roof-like cover, the form simulates that of a building (*Fig. 5*). It is virtually a miniature storehouse or granary. A slightly convex curve to the lid may have been meant to imitate the bulge of thatching, in which case the flanges along the ridge and hips and down the center of each side would represent poles fastened to the roof to hold the thatch in place. The crenelation of these flanges seems to suggest tiles; but no fragment of tile or brick having been discovered during the excavations at An-yang rules out the use of this material for the present. The notching of flanges was a customary treatment on all manner of bronze vessels, and probably has no special significance in this instance.[9] On the sides of the *fang-i*, corresponding fins might be interpreted as standing for columns. Motifs such as the stylized "tiger" mask with its staring eyes and curled horns, animals in profile—note in *Fig. 5* the affronté elephants with raised trunks and the feline beasts in registers respectively below and above the masks—also animal parts—eyes, claws, beaks, etc.—appearing in bronzes in relief, must have been carved or painted on architecture in vivid colors. Other less startling motifs may be imagined repeated in countless succession as borders or as banded designs on columns and beams.[10]

The Chou people, who had established their capital at Fêng, located south of modern Hsi-an, amassed power sufficient to overthrow the Shangs about 1027 B. C.[11] The defeated Shangs scattered to South China and to Korea where their activities marked the beginning of Korean history and of Korean architecture, too. The capitals were at Hao and at Lo-yang, the later one established about 770 B. C. on the Lo River and near to the site of the modern city of that name. As may be expected, a few types of artifacts having architectural significance, that are different from those already seen, have been preserved from this second historic period.

The outstanding ones are of bronze. The Art Institute of Chicago displays a dozen bronze sheaths or sockets for square wooden beams, assembled as a gateway, which arrangement makes no pretense of having any archaeological significance.[12] As a matter of fact, several distinct sets are represented (*Fig. 6*). Of various sizes, with straight or serrated edges, the surfaces are covered with the characteristic Chinese space-filling "cloud" pattern in flat, low relief. These must have presented quite a handsome picture in their original setting, brightly polished against wooden beams painted the flaming "Chinese" red.[13] Various beautifully formed finials, four to six inches tall, are exquisitely inlaid with handsome patterns in gold and silver, unlike anything known to have been produced in Shang art (*Fig. 7*). In the microcosm of this small detail may be envisaged the richness of an extensive and flourishing decorative art.

The bronze gadgets of the late Chou period show an inventiveness, ingenuity and workmanship of a high order. There have been found several cleverly conceived hinges used architecturally; and others indicate the variety that must have existed. A hinged socket with a slide bolt in the Royal Ontario Museum of Archaeology combines an articulated joint with a lock pin. A contemporary bronze canopy top has four hinged sockets for square poles, which, with a hole for a staff through the stationary center member, allowed the canopy to be opened or closed somewhat like a modern umbrella.[14] A bronze tube coupler fastens on the principle of a screw, the helical rib of one section fitting tightly under the chin of an animal-form in high relief projecting from the end of the other section (*Fig. 8*). The nose of the animal opens a gate in the rib that connects with it and then locks the coupler.

The Chou-Dynasty city was not radically different from that of the Shang. It was quadrangular and laid out on a stereotyped plan encompassed by a tamped earth wall and a ditch. The fortified residence of the feudal lord, the ancestral temple and seignorial market were in the center surrounded by the dwellings of the clansmen. It was at this period that clay roofing tiles first began to come into use. The gates of the city appear to have been flanked by twin towers of timber instead of the single structure of the previous period. A few provincial towns in China still have twin towers, although a lone tower over the gate is the more usual today.[15]

The Chinese consider the Chou their classical period. It was the age of the philosophers, of Confucius, Mo-ti and Lao-tzü, contemporaries of the Buddha in India, Zarathustra in Persia and Pythagoras at Samos and Crotona. But the Chou

was also a period of social and political upheaval, the monarchs being able to maintain their hold on the country only for about two and one-half centuries. For the next five centuries China was divided into a number of independent states.

The first Chinese empire was created under the great Ch'in leader, Shih-huang-ti, whose title means "First Emperor," and whose system of government was perpetuated—with modifications—in China until the twentieth century. The important structure in the Middle Kingdom antedating the Christian Era, that has survived, is the Great Wall; and it was largely built during the reign of Shih-huang-ti (221-210 B. C.). The Great Wall was constructed as a barrier against the Hsiung-nu tribes, roughly on a latitude just north of the great bend in the Yellow River. Tribute countries made it unnecessary to continue the wall along the west and south boundaries. The wall extended from the sea inland to Suchow at the western end of the province of Kansu, a distance of 1,145 miles. In places the wall followed the contours of earlier walls; and there were loops built as additional defense at strategic points. The system seems to have been first to build watchtowers 40 feet square at the base, approximately 100 yards apart, on which the workmen could take cover in the event of an attack; and these then were joined by the wall battered from a 25- to a 15-foot thickness, 20 to 30 feet high, usually flush with the south side of the towers (*Fig. 9*). Gateways were located across the principal caravan routes. Like the early building platforms and barriers, the Great Wall was built of rammed earth. The more familiar stretches, in the vicinity of Peking, were faced with stone or brick at a much later date; or parts were newly built for added protection during the Ming and Ch'ing periods.

The existence of the Great Wall, attesting to the magnitude of engineering feats accomplished in China during the reign of Shih-huang-ti, renders plausible the written accounts dealing with other achievements of the same period, such as the digging of lengthy waterways and the construction of a network of tree-lined roads, fifty paces broad. The greatest marvel was the capital, Hsien-yang, Shensi Province, which was on such a vast and splendid scale that it must have surpassed Nineveh at the height of its glory. The Chinese city was many miles in width on either side of the River Wei; and it extended east and west along the riverbanks for a hardly believable distance.[16] One Sinologist has summed up the wonders of the city:

> The richest families throughout the empire, to the number of 120,000, were ordered to build mansions in the capital and dwell there with their belongings. Whenever the Emperor conquered a principality, he erected in his capital a replica of the royal palace destroyed, and adorned it with the captured treasures. Palaces and pavilions thus reproduced numbered 145; and 100,000 women, chosen for their beauty from all parts of the land, were distributed among them. Each palace, fully staffed and provisioned, was kept ready for the Emperor, should the whim take him to occupy it. Besides these, there was the chief imperial palace, most magnificent of all, on the north side of the river. Covered corridors, hung with silken fabrics, ran for miles connecting the various palaces; and bridging the river was a roofed structure of wood 280 yards long and 12 wide, with 68 bays, 850 columns, 212 cross-beams and a stone platform at either end. Not content, the Emperor built south of the river another palace in which to hold audiences. This stupendous structure, famed in history under the name O-p'ang Kung, had a hall measuring 500 yards from east to west and 100 yards in width. Its upper floor was high enough 'to allow banners 10 yards tall to be held upright.' More than 700,000 convicts, who had suffered the punishment of castration, were employed to construct the new palace and a gigantic tomb for the Emperor.[17]

The vast city was sacked and burned soon after the death of the Emperor in 210, and no remnant of it remains except some stone pedestals for the columns of the audience hall.

Following the overthrow of the Ch'in in 207 B. C., there was a period of anarchy which ended when the country was reunited by a military officer who was the first Chinese ruler to rise from the ranks. The new emperor, Liu Chi, located his permanent official residence in central Shensi Province. His city, Ch'ang-an, followed the tradition in having tamped earth walls around it and platforms supporting elevated wooden structures. No trace of the last survives; but the walls are standing and one platform is fairly well preserved.

The rampart measures a thickness of 350 feet at the base, without plinth or damp-course.

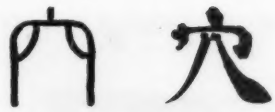


FIG. 1. Ancient and modern forms of the character *hsüeh* (a den or pit-dwelling).

FIG. 3. Pictographs of the Shang terraced house.

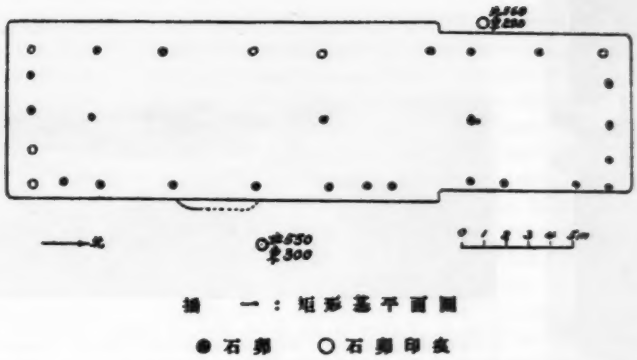


FIG. 2. Plan of a building platform found at An-yang, showing location of pillar-base stones (black) and the impressions where others had been (circles). The arrow indicates north. [From "Preliminary Reports of Excavations at An-yang," *Academia Sinica*, Institute of History and Philology, Vols. 1-4, 1929-1933, p. 711.]

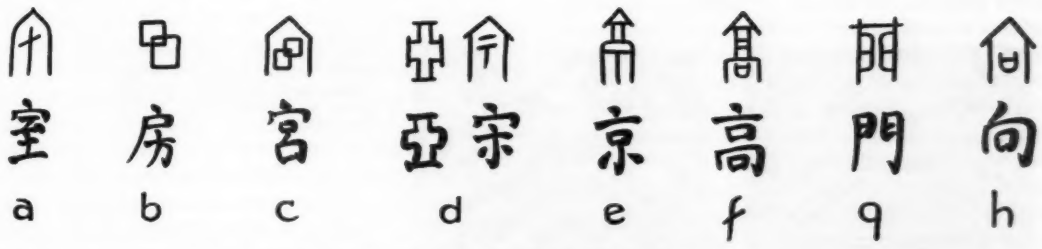


FIG. 4. Shang and modern character equivalents derived from or designating architectural forms.

FIG. 5. Shang bronze *fang-i*, or storage vessel. Height 11¾ inches. Freer Gallery, Washington.

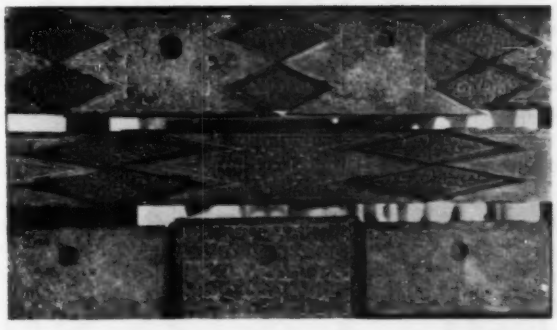


FIG. 6. Bronze beam sockets or sheaths. Detail of Chou pieces assembled as a gateway in the Art Institute of Chicago. The carving on the wood between the bronzes is modern.

FIG. 7. Bronze Chou-Dynasty finial inlaid with gold and silver. Art Institute of Chicago.

FIG. 8. Bronze tube coupler. Length 7 inches. [*Illustrated London News*, November 4, 1933, p. 724, fig. 3.]

FIG. 9. Portion of the Great Wall of China, northwest of Peking. [Carl Whiting Bishop, "An Ancient Chinese Capital," *Antiquity*, March, 1938, pl. III (following p. 72).]

FIG. 10. Painted pottery house model of the Han Dynasty. [*Catalogue of the William Rockhill Nelson Collection*, Kansas City, (1943), fig. 5 (p. 106).]

FIG. 11. Han pavilions as shown in rubbings of reliefs. [*Shina Santôshô ni Okeru Kandai fumbo no hyôshoku fuzu*, pl. 70, figs. 116-117.]

FIG. 12. Rubbing of a Han relief from the collection of the Tokyo Engineering College. [*Shina Santôshô ni Okeru Kandai fumbo no hyôshoku fuzu*, pl. 44, fig. 71.]

FIG. 13. Stele in the Eumorfopoulos collection. To the left is Mañjuçrī's canopied throne, and to the right Vimalakīrti's "ten cubits square" house. [W. Percival Yetts, *The George Eumorfopoulos Collection*, London, ca. 1932, pl. XI (detail of pl. VIII).]

The top apparently was drained by a system of gray, unglazed tiles. The outer face of the wall is quite steep, and today averages a height of 25 feet. It must have been somewhat higher originally, judging from the amount of silt that has washed down from the top of the wall onto its inner side. The outer plane of the wall is unbroken, having neither the towers of the Great Wall, nor the rectangular so-called "bastions" of later Chinese city walls. The terrepleine measures over 40 feet across. Few of the world's fortified cities have had a moat as wide as that which encircled Ch'ang-an, or a rampart as massive as that just described.

Several hundred yards west of the wall there was a rectangular rammed-earth mound composed of several stages, its major axis lying due north and south, probably corresponding to the continuation of the axis of the neighboring royal city. Tradition identifies this as the foundation platform of the principal edifice of the palace compound, the celebrated Wei Yang Kung. Totaling a length of 450 yards and a breadth of 145, the earthen platform was built in five levels, of which the highest, near the northern end, was elevated some 50 feet above the surrounding plain. A ramp 100 feet wide, beginning at the center of the southern end, led gradually upward from one level to the next above, these varying in height from 2 to 10 feet. The uppermost measured about 12 yards wide north and south and 65 yards east and west. A stele erected by a Manchu Emperor replaces whatever pavilion, forever lost, once stood on this auspicious terrace.[18]

It was left for Wu-ti, who came to the throne fifty-five years after the death of Liu, to bring to a focus the greatness of the Han Dynasty. During the reign of Wu-ti (140-87 B. C.), the boundaries of China were extended several hundred miles to the south, into Korea on the northeast, and a narrow panel pushed at least 1500 miles due west to the area north of the Kushan, or farther west than China was ever to extend under the leadership of a native Chinese emperor. The architecture of this imperialistic period was still predominantly wooden; and like that of earlier times, it has not survived. It is known through sculptured steles, relief tomb carvings, pottery house models, and written descriptions.

The majority of the Chinese lived on extensive plantations at this time, so that only three or four cities attained a population of 100,000. The Han landscape was dotted with large houses several stories in height (*Fig. 10*). A gate on the south side opened into a courtyard with the main hall on a raised terrace directly in front, in addition to which there were pavilions to the right and left symmetrically disposed, some with upper balconies, and all with wide overhanging bracketed eaves, the entire ensemble lavishly polychromed with complex designs in bright colors. The bracket is an important constituent of Chinese architecture that had come to the fore by the time of the Han period. It appears in a multiplicity of varieties, jointed in various ways, functioning as imposts atop columns, furnishing a broader bearing surface for cantilevers that support other blocks. Seen on small pavilions depicted in the Han reliefs (*Fig. 11*), the brackets of great halls are assumed to have been as branched and articulated as those of the oldest extant buildings, although posterior to the Han structures by a matter of centuries.[19] One of the engaging forms was a life-sized caryatid with bracketed arms steadying the roof overhead, a many-times-enlarged version of the tiny supports on a contemporary bronze *lu*.[20] Brick and tile, both of which may have been introduced earlier, were put to widespread use at this time, walls of the former usually lime white-washed, and hung with colorful, often imported, hangings on special occasions.[21] A dais was placed in the center of the main hall for the seat of the head of the family on reception days.

The interior, with mat-covered floors, was divided into various rooms. It is said that the master's quarters were in the southwest corner of the house; wives and children occupied the interior apartments and the upper floors. Younger married members of the family were housed in pavilions on the west side of the main hall, and guests were accommodated in pavilions on the east.[22] In contemporary reliefs we see various activities going on in different parts of the house at the same time; a great lord receives his vassals on the main floor, while the ladies chat amicably and informally above;[23] or, in another scene, the cook bends over the stove under an assortment of smoked fish, fowl and quadrupeds hanging from the kitchen rafters, while the servants, bearing trays, mount the staircase to serve the well-attended and entertained diners in the upper chambers (*Fig. 12*). M. Maspero (*cf.* footnote 22) has given us a sketch of the life of this time which needs not be repeated in detail here. It was the period of the historians Pan Piao, Pan Ku and Pan Chao, who have left to posterity penetrating accounts of this golden age.

As our evidence indicates, Chinese architecture reached a high point during the Han Period; and beyond this point it progressed very little. The many-storied buildings of the Han Dynasty had been exchanged for a one-storiedness by the beginning of the Sung Dynasty seven and one-half centuries later, one of the few exceptions being religious towers. We should not be surprised that the Ch'ing K'ang-hsi Emperor, when shown pictures of western buildings of the seventeenth century, is reported to have remarked: "Europe must be quite a poor and miserable country, since there is not space to expand the cities and the people must resort to living in the air."[24] The later Chinese ideal regards the individual building as of little importance in itself. It is an integral part of a complex layout composed of architecture, courtyards and gardens, that spreads out over a wide area; and the individual unit cannot be divorced from the group. Something of this characteristic type of Chinese planning existed in the ensemble at An-yang; and although the central edifice attained a definite domination of the scheme during the Han Dynasty, there was afterwards a return to the original concept of aggregate one-storiedness.

Besides certain foreign influences—notably that coming from Buddhist India (the rock-cut temple and the development of the stūpa-pagoda form), and the introduction of the arch with the increased use of stone—the only other remarkable change in Chinese architecture from the end of the Han Period until the beginning of the twentieth century was the curving of the roofs. Considered one of the primary characteristics of Chinese architecture today, particularly exaggerated in central and southern China, this feature seems to have appeared early in the sixth century. The curve is absent from the representations of roofs of the Wei Dynasty rock carvings of Yün-kang and Lung-mên; but on a stele in the Eumorfopoulos Collection, dated the equivalent of A. D. 520, there is depicted a tiled roof that is slightly curved (*Fig. 13*). During the T'ang Dynasty, which began a century later, the concave roof became a prevalent feature. The myth that the curve of the Chinese roof originated in the dip of the nomad's tent—favorably received a century ago[25]—can no longer be accepted. The Chinese were too far advanced over their neighbors at that time to borrow a feature for their great houses from the barbarians' inferior portable shelters. A Chinese has advanced the theory that the curve of the roof came simultaneously with the curving of the written characters, depending on the use of the brush for writing;[26] but some seal characters are cursive, and writing in China has been executed with the brush since Shang times,[27] thus antedating the roof change by many centuries. In architecture, as in painting, the Chinese always having taken scrupulous care to conform to ancient models; it is possible that they began to copy the sag acquired by the timbers of old roofs.[28] And yet the most likely explanation for the roof lilt is that it was inevitable that Chinese aesthetics should arrive at this refinement, giving a certain buoyancy to the one heavy element of the Chinese building, and being both beautiful in itself and harmonious with the pines and hills of the Chinese landscape.

COLUMBIA UNIVERSITY

1. The author is indebted to Professor Jane Gaston-Mahler and to Dr. L. Carrington Goodrich of Columbia University for advice and criticism on the ensuing article.
2. Leon de Beylié, *L'Architecture Hindoue en Extrême-Orient*, Paris, 1907, pp. 100-102, 186, 259-261. Olov R. T. Janse has excavated tomb architecture of Han times in Indo-China, but the time is not yet ripe for a definite statement on the extent of the influence.
3. The author has just completed a manuscript entitled, *Far-Eastern Architecture and the Modern American House*, giving a rather full account of this topic.
4. Institute of History and Philology, "Preliminary Reports of Excavations at Anyang," *Academia Sinica*, Vols. 1-4, 1929-1933, p. 717 plans and sections).
5. The dates cited are somewhat later than those traditionally given, being those accepted by such current scholars as Wang Kuo-wei and Bernhard Karlgren. *Cf. B. M. F. E. A.*, Vol. XVII, pp. 101-144.
6. The foregoing examples have been taken from Chu Fang-p'u, *Chia Ku Hsüeh Wên Tzŭ Pien* (Compiled Study of Early Bone Writing), 2 vols., Shanghai, 1933.
7. Roswell S. Britton, *Fifty Shang Inscriptions*, Princeton, 1940, p. 54.
8. Herrlee Glessner Creel, *The Birth of China*, London, 1936, pp. 70-71.
9. In some instances these were not notched; an *i* in the collection of the Art Institute of Chicago, that has a bombé body, has projecting ends to the horizontal ridge spine and also the lower extremities of the exposed ribs on the hips and centered on the sides—on the whole quite a realistic roof. Charles Fabens Kelley, *Chinese Bronzes from the Buckingham Collection*, Chicago, 1946, pl. XXIV.
10. There were "Painted mural decorations on matting or leather which covered the wooden walls of tombs. Decoration consisted of bronze designs done in green, red and yellow." Grace Dunham Guest and Archibald G. Wenley, *Annotated Outlines of the History of Chinese Arts*, Freer Gallery of Art, Washington, D. C., 1946, p. 5.
11. *Cf.* footnote 5.
12. According to a letter from Mr. Charles Fabens Kelley, Curator of Oriental Art, The Art Institute of Chicago, November 24, 1947.
13. A painted Chou beam is in the collection of the Museum of Far Eastern Antiquities, Stockholm.
14. Royal Ontario Museum of Archaeology, *Outline Guide to the East Asiatic Section*, Toronto, 1935, fig. 14 (p. 9).
15. Carl Whiting Bishop, "The Beginnings of North and South in China," pamphlet, p. 313 (reprint from *Pacific Affairs*); Bishop, "An Ancient Chinese Capital," *Antiquity*, March, 1938, pp. 73-74.
16. Albert Tschepe, *Histoire du Royaume de Ts'in*, Shanghai, 1909, pp. 291-298.
17. W. Percival Yetts, "Writings on Chinese Architecture," *Burlington Magazine*, March, 1927, pp. 116-117.
18. These descriptions of Old Ch'ang-an have been taken from Carl Whiting Bishop, "An Ancient Chinese Capital," *op. cit.*, pp. 71-72, 77.
19. Gustav Ecke, "Structural Features of the Stone-built T'ing Pagoda," *Monumenta Serica*, Vol. I, 1935-36, pls. XI-XII (following p. 276).
20. Compare: *Shina Santōshō ni Okeru Kandai fumbo no hyōshoku fuzu*, pl. 99, fig. 176; with Kelley, *op. cit.*, pl. XLVII.
21. Bishop, "An Ancient Chinese Capital," *op. cit.*, footnote 14 (p. 78). Bp. W. C. White of the Royal Ontario Museum of Archaeology dates certain tomb tiles found in the vicinity of Old Lo-yang from the Period of the Warring States (475-221 B. C.) on the basis of the script written or incised on them, which is believed to be peculiar to this time. William Charles White, *Tomb Tile Pictures of Ancient China*, Toronto, 1939, p. 14.
22. Henri Maspero, "La Vie Privée en Chine à L'Epoque des Han," *Revue des Arts Asiatiques*, Vol. VII, 1931-32, pp. 185-187.
23. *Shina Santōshō ni Okeru Kandai fumbo no hyōshoku fuzu*, pl. 99, fig. 176.
24. Maurice Adam, *Yuen Ming Yuen, l'Oeuvre Architecturale des Ancient Jésuits au XVIIIe Siècle*, Peiping, 1936, p. 10.
25. Andrew Jackson Downing, *A Treatise on the Theory and Practice of Landscape Gardening Adapted to North America*, New York, 1841, p. 306.
26. Chiang Yee, *Chinese Calligraphy*, London, 1938, pp. 213-216.
27. Britton, *op. cit.*, p. 2; *Monumenta Serica*, 1941, p. 391.
28. Both Confucius and Lao-tzŭ venerated the ancients, and the collecting of rare objects was one of the hobbies of the last king of Wu at the beginning of the fifth century B. C. Bishop, "The Beginnings of North and South in China," *op. cit.*, p. 324. Archaism was one of the principal manifestations of romanticism during the Sung Period.

L. MORGAN YOST, Vice-President of the Chicago Chapter of the A. I. A. and recently Visiting Professor at the University of Illinois, is a well-known contemporary architect. This article on the long-forgotten Greene brothers greatly benefits from his professional experience, giving an unusual warmth and freshness to the interpretation of the style of these two pioneers of the California School.

GREENE & GREENE OF PASADENA

Having long been intrigued by the illustrations of California bungalows in the old architectural magazines of 1905 to 1914, I took the first opportunity following the war to go to California to see them first hand and to learn what I could about their origin.

From the old magazines I was acquainted with the name of Greene & Greene of Pasadena and inquired of architects and residents there of the whereabouts of the Messrs. Greene. I soon discovered that never have architects been more highly regarded in their own community than are Greene & Greene. Their work today, 40 to 50 years old, is admired and respected. Older inhabitants remember them as being fine men—but none whom I asked knew where they were.

Finally there came a rumor of a daughter who lived in Carmel, whither I journeyed and after half a day's search found her and her father, Charles Sumner Greene, with whom I spent the afternoon. I learned then that his brother, Henry Mather Greene, lived in Altadena, adjoining Pasadena. Upon my return I called on him and he took me to see many of their Pasadena houses. He also arranged to take me through the R. R. Blacker home which their firm had built in Pasadena in 1907, and which they regard as their masterpiece.

Mrs. Blacker still occupied the house (1946) with the original furnishings just as they had been designed by the architects. The landscaping, too, more mature now, but just as the architects laid it out, enhanced the buildings. A time-machine could not have transported us forty years back more effectively. Many of the lighting fixtures were still equipped with carbon filament bulbs. Through the years excellent care had been given both buildings and grounds, though nothing significant had been changed. This was an experience never to be repeated as Mrs. Blacker died the next year, the property was sold, divided and disfigured, and the furniture dispersed.

I now had facts to build on and I transmitted them to Jean Murray Bangs who, with Los Angeles as a base of operations, decided to do a book on the work of Greene & Greene.

Before 1900 the call of California was the call of nature and health. Though wealth was present, many of small means migrated, buying plots of desert land on the promise that water would be available, and building shacks according to a local system. Two by six mud sills (though there was little mud) were placed on the ground and across them 2 by 4 joists were laid 30 inches apart. Redwood boards, rough sawn and a full inch thick, were nailed vertically atop the mud sills and joined at the top by a girt. Battens covered the joints. There were no studs. A low gable roof, covered with building paper, completed the house. Interior finish awaited more money.

In the dry sunny desert climate which then obtained in Los Angeles county (irrigation and smog from manufacturing has actually changed the climate since then) this system worked so well that people of means adopted it for their winter cottages. It was such a cottage for Mr. Arturo Bandini that started the young brothers Charles and Henry Greene searching for a true expression of the California house. Coming from the East these men learned to love California and sought to improve its houses, which, except for the shacks, were poor copies of what they had back East.

The brothers were born in St. Louis and spent their boyhood there where they went to manual training high school, a factor which they feel was influential in their later use and handling of materials. They studied architecture at MIT, were graduated in 1891, then worked for two years in Boston architectural offices. In 1893 their parents invited them to Pasadena for a visit. They arrived, liked it, decided to stay, and their grandmother staked them when they opened their office.

Their early work avoided the prevailing stylish classic theme of the East, adhered more closely to the simple wood cottage style of Richardson's followers. It had no more, nor less, style than

countless other inexpensive wooden houses the country over. In casting about to find themselves they did some buildings in the stucco mission style which for a time was touted as the true California style. They obviously did not feel at ease with it and when in 1903 Mr. Bandini appeared asking them to design a good little house on the order of the prevalent redwood shacks they seized the opportunity, doing a one-story redwood house around three sides of a patio, with chimney and fireplace of boulders gathered from the site. The patio idea caught on in the land of the sun, where people were preoccupied with out-of-door life, and the architects developed it in later houses.

Continuing their search and experimentation they started to use shakes of cedar and redwood, clinker bricks discarded from the kilns, roll roofing and other homely materials to bring a feeling of naturalness into their buildings. Architects criticized them for using "unworthy" materials, but they continued in their quest.

Their work from 1900 to 1905 consisted mostly of small houses—bungalows as they came to be called. The hunter's cabin type of boulder fireplace with redwood board and batten walls typified many of the interiors. Dark stained exterior walls were protected by broadly overhanging roofs, for in those days southern California had no trees and the house had to shade itself. Exposed beams and rafters supported the roofs and great attention was paid to louvers and vents to circulate air under the roof and under the house for cooling. Casement sash were carefully grouped and downspouts became part of the design, not a necessary afterthought.

Several important factors came together at that point in time to make Greene & Greene great. First, of course, was the design genius of the brothers, with their innate feeling for materials. Then, skilled and prideful craftsmen were available. Income taxes were in the future, so there was money for building and no mortgage lender dictated design. Fine materials, redwood, fir, mahogany and teak, were to be had in any quantity. They learned to use them well and with expression, as boards and beams, not as falsely flush surfaces. Wealthy Easterners, coming to California to winter or to retire, saw in their work an indigenous expression of California and commissioned Greene & Greene to build their houses. The work of Greene & Greene embodied the highest expression of the culture, the economic and social conditions of the time, in buildings solving the climatic and structural problems of southern California.

Though none succeeded to the quality of their work, their imitators were many. The characteristic brackets, frames and louvers became stock items in the mills and all the speculative houses were soon being built in the style of the California Bungalow. Surprisingly, it was so logical a manner that most of them were good, some excellent, and they all looked like California. The bungalows of 1910 even now look more natural, more serene and comfortable under the California sun than any of the popular houses built since.

From "An Architect of Bungalows in California" by Arthur C. David, *Architectural Record*, October, 1906, we learn the contemporary definition of the type. "The California bungalow both as a matter of design and as a matter of plan has about it a certain practical and aesthetic tendency. Its whole purpose is to minimize the distinction which exists between being inside and outside of four walls. The rooms of such a building should consequently be spacious, they should not be shut off any more than is necessary one from another, and they should be finished in wood simply designed and stained so as to keep so nearly as possible its natural texture and hue. The exterior, on the other hand, should not be made to count very strongly in the landscape. It should sink, so far as possible, its architectural individuality and tend to disappear in its natural background. Its color, consequently, no matter whether it is shingled or clapboarded, should be low in key and should correspond to that of the natural wood. Its most prominent architectural member will inevitably be its roof, because it will combine a considerable area with an inconsiderable height, and such a roof must have sharp projections and cast heavy shadows, not only for the practical purpose of shading windows and piazzas, but for the aesthetic one of making sharp contrasts in line and shade to compensate for the moderation of color. Its aesthetic character will necessarily be wholly picturesque: and it should be both surrounded by trees and covered, so far as is convenient, with vines.

" . . . The type . . . is most completely and happily fulfilled in the houses of Messrs. Greene & Greene."

Mr. David said further, "The houses [of Greene & Greene] are highly successful, largely because they so frankly meet the economic, domestic and practical conditions which they are intended to

satisfy. All of their chief characteristics—their lowness, their big overhanging roofs, their shingled or clapboarded walls, the absence of architectural ornament, the mixture which they afford of simple means with, in some instances, almost a spectacular effect—all these characteristics can be traced to some good reason in the actual purpose which this sort of house is intended to meet. Of course, in addition thereto Messrs. Greene & Greene must be credited with a happy and unusual gift for architectural design. Their work is genuinely original and if anything like as good has been done with cheap little houses elsewhere in this country, it has not been our good fortune to come across it."

But in 1906 when the above was written, their greatest works had not been built. They had yet to acquire their full expression, to win many clients who could afford the full devotion to detail which they longed to give.

A few years earlier, probably about 1903, there rapped on their door an itinerant bookseller. He had a set of books on travel. Idly Charles Greene leafed through the pages until his attention was arrested by pictures of Japanese homes and gardens. This was what he had been seeking. Here was that expression of post and beam construction, of articulated structure. Here, too, were the house and garden as one, an informal yet carefully conceived whole.

Actually most of this was in his imagination, but the spark had caught. No detail could be seen in the chalk-and-charcoal engravings of the time. But there was enough to start the flame of creation. From then on the work of Greene & Greene took on its highly personal character, those not-to-be-imitated forms, that something that set it apart from all the others.

After Charles Greene, that afternoon in 1946, had told me, most modestly, of the bookseller incident—so I would know he was not entirely original—he asked me if I would like to see that old book. Of course! He took it from the shelf, turned almost automatically to the page and remarked sadly that he had never gotten to Japan. Too busy when it would have been most useful, then when later years brought waning popularity, no business to support the trip.

Greene & Greene were innovators. They opened the house to the shaded patio with groups of French doors. They used flush ceiling lights, built-in cabinets as partitions and they divided rooms with sectional glass walls as early as 1906. They designed sectional furniture and kitchen work counters at a modern 36-inch height when most architects gave kitchens no heed. Clerestory windows brought in high light where needed and the larger window areas were protected from the south sun by overhangs—and where light was needed under such overhangs at a particular place the overhang was pierced, just as we do today.

The furnishings and gardens were their province in the later houses for the wealthier clients and they produced a unity that has never been surpassed. Many gardens were Japanese in character. Others were symmetrical and formal, though softened by pergolas, pools, and lattice fences. Gardens were always natural to the terrain.

Furniture was designed, not as stock pieces to be used in various houses, but individually. The characteristic details were repeated and carried through but in each case the furniture was thought out as an extension of the design of the house. Colors of hangings were natural—pongee, linens. Few of these fabrics remain. Indeed many windows being of leaded glass in fanciful pattern and soft color required no curtains.

The time spent by the brothers on each of their later jobs must have been enormous. Every detail was obviously supervised in execution after having been individually designed. These are the most perfect houses, I believe, that have ever been built. Photographs lack entirely the details and presence of the buildings themselves, but will serve as a rack upon which to hang comments and descriptions.

The pond on the grounds of the R. R. Blacker estate (*Fig. 1*) like the Japanese ***ike***, is irregular in shape, with stones carefully placed and with a waterfall to supply it. Stepping stones and paths form suggested walks or tours through the gardens, all intimately related to the buildings. A dell brings this corner of the basement above grade, where a billiard room has outside access. Greene & Greene made studious use of the rolling hills upon which many of their houses were built. Exposed rafter ends form dotted lines where harsh straight lines would not unite the buildings with the landscape.

Construction is a frank expression of posts and beams carefully fitted. Steel straps and wedges

FIG. 1. R. R. Blacker house, 1907, Pasadena, Greene & Greene, Architects. (Lloyd Yost photo. The following pictures, unless otherwise specified, are by the same photographer.)

FIG. 2. Detail of gable end, Blacker house, Greene & Greene.

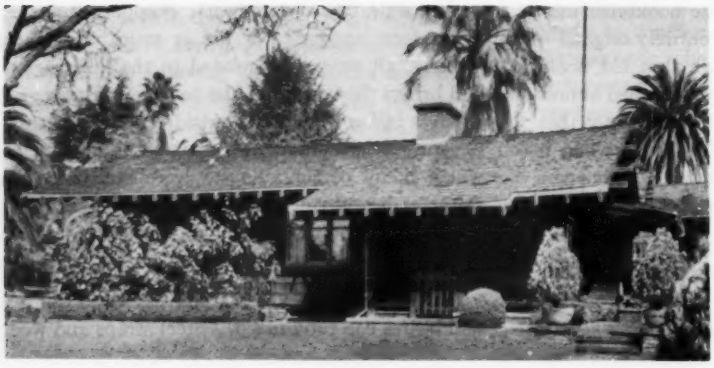


FIG. 3. Gardener's cottage, Blacker estate, Greene & Greene.

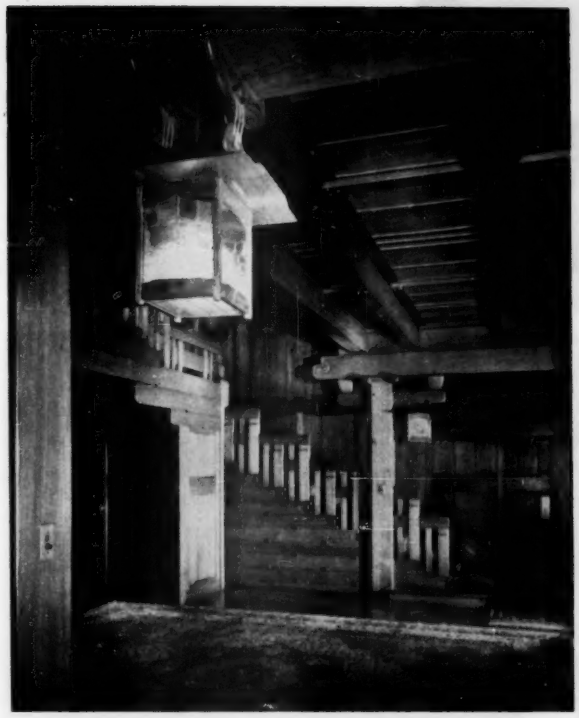


FIG. 4. Stair hall, Blacker house, Greene & Greene, Architects. (Maynard L. Parker photo, courtesy Jean Murray Bangs.)

FIG. 5. James A. Culbertson house, bay detail, Greene & Greene.

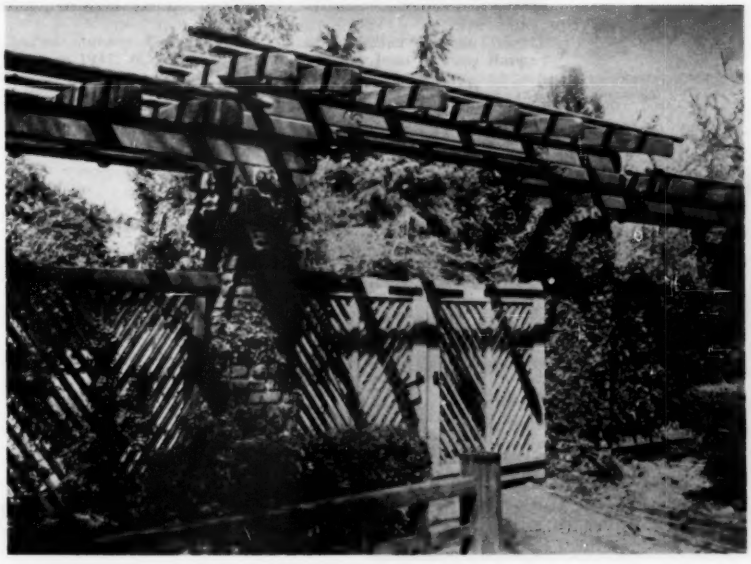


FIG. 6. Trellised garden fence, Culbertson house, Greene & Greene.

FIG. 7. David B. Gamble house, 1908, Pasadena, Greene & Greene.

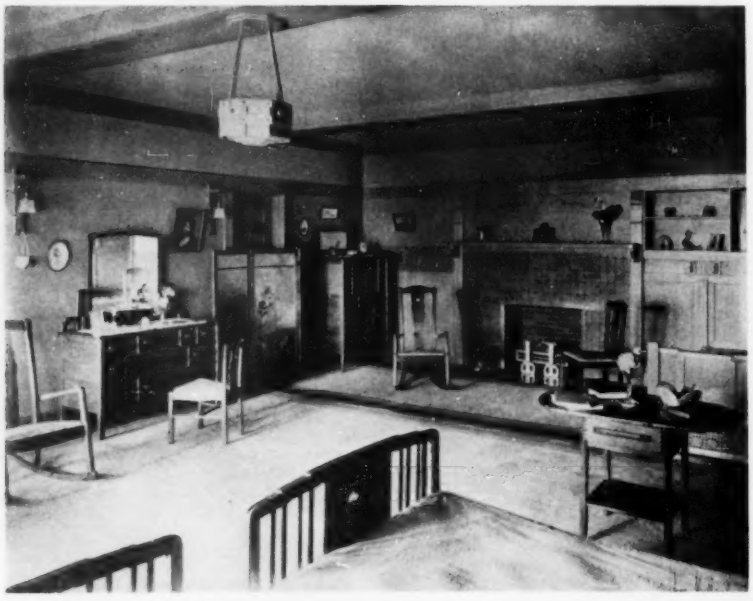
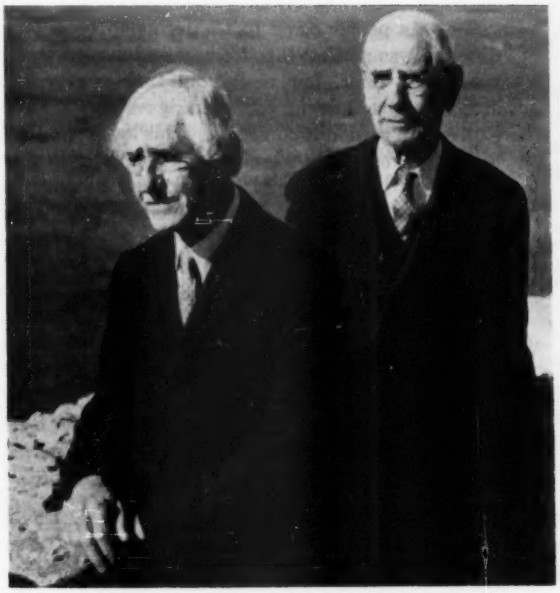


FIG. 8. Bedroom, Gamble house, from old photo taken about 1909. Greene & Greene. (Copy of Leroy Hulbert photo)

FIG. 9. Living room, Wm. R. Thorsen house, 1908, Berkeley, Greene & Greene.

FIG. 10. Cabinet from master bedroom, Blacker house. (Background not Greene & Greene.) Greene and Greene.



Charles Sumner Greene (left). Henry Mather Greene (right). Taken in 1947. (Cole Weston photo, courtesy Jean Murray Bangs.)

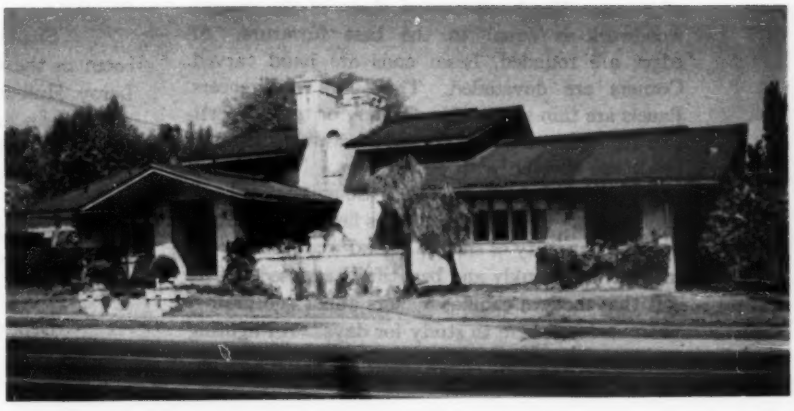


FIG. 11. Bungalow with mission influence, probably about 1912, Los Angeles. Jud Yoho, Architect.

clamp parallel members together. Each timber is hand formed with all edges rounded to soften the shadow, lifting it from the commercial feeling of the lumber yard. The detail of the Blacker house (*Fig. 2*) shows the dissolution of the wall into structural pieces. Even the group of French doors forms a V to dissociate their planes from the structure above. At this same time, 1907, Frank Lloyd Wright was breaking down the wall by arranging elements so the spaces between became the openings or windows—as opposed to a box with holes cut in it. Greene & Greene were striving for the same expression by arrangement of structural members, louvers, railings, and other elements.

The gardener's cottage on the Blacker estate (*Fig. 3*), to me, was a most perfect expression of the small California house of the time. This photo was taken before it was painted white and otherwise altered. The quirk of the gutters as well as the slight upturn of the gable overhang and ridge is somewhat reminiscent of the Japanese. Henry Greene confesses great trouble on the job getting these curves of gutters and roof and different sized rafters to come out right. The chimney is characteristic in two stages, though on some jobs the upper part was elaborate. Brickwork, in chimney, walls, and foundation is of the dark maroon clinker bricks they thought—and with reason—related the house to the ground. In frostless California, such brickwork, top-exposed, is natural. Heavy timber sills mortised with ends extended at the corners are laid on the brick and carry over foundation vents. Window sills and heads were extended past the frames to relate them to the wall. The textured redwood shakes were a Greene & Greene innovation.

The Blacker stair hall (*Fig. 4*) well exemplifies the work of Greene & Greene as an assembling of pieces. The hand-rubbed sheen of the interior woodwork is equal to the best furniture. All edges are rounded, beam ends are hand carved. Corners are dovetailed. There are no veneers. Panels are thin sheets of mahogany or teak. Verticals are let into horizontals and all dowels and screw heads are covered with ebony pegs. No nails are used—no puttied holes. Joints are emphasized and used as pattern. No piece comes flush with another in false continuity of surface. End wood is not covered but left frankly and beautifully exposed. (Why is it that modern cabinet makers abhor end grain?) There is detail here to study for days. All lighting fixtures, usually of wood, become part of the house. Even switch plates are special with rounded contours pleasant to the fingers.

Even in rare cases where more traditional mass forms were used the handling and detail were original, as in the James A. Culbertson house (*Fig. 5*), remodeled from one of their earlier Pasadena houses in 1905. Charles Greene delighted in wood carving as he does to this day. He found craftsmen and carvers who could follow his lead, and the firm set them up keeping them busy making the fine carving, interior woodwork and furniture for its houses.

As people came to California to be out-of-doors, it was natural that trellises and garden structures were built, but rarely did they receive the attention that Greene & Greene gave them. The Culbertson garden is bordered by this lovely trellised fence (*Fig. 6*). The members are characteristically formed by sensitive hands, carved and rounded to modulate the bright sun. The cross beams are bowed, with ends thicker. The purlins are elliptical, not circular, in section, the better to soften the shade. The clinker brick piers could not possibly be replaced by accurately laid regular brickwork. Bernard Maybeck in Berkeley did treillage with magnificent chiaroscuro, but the pieces were rectangular and sharp to be effective in the fog of the Bay Region. Wright, in the Midwest with its murky winters, did trellis with bold heavy spaced rectangular members. Each to his own climate.

Poised above the Arroyo Seco the David B. Gamble house, 1908 (*Fig. 7*), commands a view for miles and both first and second story porches are placed for view, south breeze and shade from the extremely broad overhangs. The shingle walls are in regular pattern and are stained an olive green that blends with the grey green slate coating of the roll roofing which is formed to create integral gutters.

Shades of 1910! The photograph of a bedroom in the Gamble house (*Fig. 8*) was taken by Leroy Hulbert, who photographed several of the best houses at the time with great feeling and perception. Neither Hulbert nor his negatives have been found as yet. The room has the continuous head band of the time and the rocking chairs are dated—but they will soon be back. Notice the indirect fixture of wood, inlaid with mother of pearl and copper. All furniture here was by the architects.

Depleted of its furniture, the living room of the Wm. R. Thorsen house in Berkeley, 1908,

(*Fig. 9*) still retains its richness. Here can be seen the lapped rather than butted joints of the continuous trim, which also carries through as curtain valances. The painted branches coming from the urn-like devices give a garden wall effect. At the point of the V-end can be seen the massive redwood beam which extends through to support the porch roof. This is another indoor-outdoor motif used to break down the barrier of the separating wall and one which they used many times. The woodwork is teak and is screwed very securely with mortised and tenoned joints, as the fraternity members discovered when they made some minor alterations on the second floor after they took the house over.

Two cabinets from the master bedroom of the Blacker house were fortuitously acquired by the author. The doors of the one illustrated (*Fig. 10*) open to form a 3-piece mirror, the center section of which in turn opens to reveal a full tier of shelves. The backs, the bottoms, the entire drawers inside and out are equally well finished, so smooth and delicately shaped as to make it most pleasurable just to feel them. The inlay, which has finesse of design that cannot be seen in a photograph, is made of copper, mother of pearl, German silver and a center strip of ash. The cabinet is made entirely of solid mahogany. Frankly expressing the nature of wood, the end banding of the table top is slightly thicker than the remainder of the surface, and end grain is exposed. In no place is the construction covered or veneered.

Not only speculative builders, but architects, mainly younger men, did work influenced by Greene & Greene. Some followers or contemporaries produced fine designs with much originality which may be seen all over southern California. Architect Jud Yoho brought some of the mission style into the design of a bungalow in Los Angeles (*Fig. 11*).

As with the work of Frank Lloyd Wright and the influence of Stickley and "The Craftsman," the fashionable appeal of the work of Greene & Greene waned early in the second decade of the century. For a while they kept going with some houses and with alterations, garden structures and "auto barns" for houses they had done previously. But the tide of commercialism and progress was too strong. They dissolved the office in 1914. Though they did work after that it lacked the quality and originality of their peak years.

In a partnership the question is asked "Which was the designer?" Perhaps Charles Greene was more sensitive to detail, to the use of hand tools, but both men designed. One of the finest houses, the Crowe, now the Crocker house, in Pasadena, is the work of Henry M. Greene alone.

Henry M. Greene had just passed his eightieth birthday when I telephoned him a few days ago, and he said his brother Charles S. Greene, fifteen months younger, is in good health.

It is good that a measure of recognition is now being accorded these pioneers in modern design. In 1948 the Southern California Chapter of the American Institute of Architects honored them with Special Certificates of Merit at a dinner, at which were present some of their clients of years ago.

Theirs was not a machine architecture, it was the last beautiful bloom of hand craft. It was the perfect expression of that decade in California. Out of it came lessons in truth of construction, in the use of native and inexpensive materials, and in considerate design that today after a period of neglect serve as inspiration for thoughtful architects.

KENILWORTH, ILLINOIS

FIG. 1. American Express Building (1872).

FIG. 2. American Express Building (1874): Above, Freight Dept.; Left, Money Office; Right, Chas. Fargo's Private Office.

J. CARSON WEBSTER is a member of the Fine Arts Department at Northwestern University and has long been interested in the architecture of the Chicago area. He organized the bus tours for the SAH and delivered a paper during the Chicago meeting, from which the following article was drawn. The American Express Building, like the later Marshall Field Wholesale Store, has disappeared and Professor Webster's cogent analysis makes it plain that it is as necessary to carry out basic archaeology in the modern metropolis as in the ancient to gain a unified concept of an earlier period of its development.

RICHARDSON'S AMERICAN EXPRESS BUILDING[1]

That Henry Hobson Richardson designed a building for the Chicago office of the American Merchants' Union Express Company in 1872 has always been known, and a few remarks about its style have been preserved, but no illustrations have been available for a study of its design.[2] There are, however, several early woodcuts which I believe allow Richardson's design to be seen, and which it is the purpose of this article to present. All efforts to find a photograph have so far been unavailing, and, although photographs must have been taken showing a part of it at some time, they may never come to light now.

The most important of those woodcuts is the one published in the *Land Owner* in November 1872, along with a brief description of the plan (*Fig. 1*).[3] The *Land Owner* was a real-estate journal whose publisher, J. M. Wing, took upon himself the task of recording the rebuilding of Chicago after the fire of 1871. The publisher prided himself on publishing illustrations made directly from the architect's drawings before the buildings were up, as is shown in the case of many other buildings.[4] There seems to be no reason to doubt, therefore, that this woodcut represents, within the limits of accuracy of that process, Richardson's original design. The design shows a relationship to Gothic rather than Romanesque in the details of the roof, and there is presumably a general Mediaeval character in the colonnettes of the windows; but the general effect in the lower part is of directness rather than mere revivalism, the restrained end pavilions lending variety and emphasis without too much projection, as again in the cornice, and the whole is marked by a sense of force combined with the openness achieved by the broad window areas. Perhaps the relationship of the colonnettes in the center windows of the first and second floors is not unsatisfactory because of the heaviness of the lintel between them. More surprising is the way the relieving arch of the first floor of the end-pavilions "bumps into" the sill of the window above.

This woodcut constitutes the best basis for a study of Richardson's design for the facade, as is shown by the complicated and rather obscure history of the building between 1872 and 1884. This is seen in other woodcuts, which will be discussed briefly here before turning to the general plan of the building. The most complete publication of the building occurred in the *Land Owner* for April, 1874, where a number of woodcuts and a longer description are given, in celebration of the building's completion and its occupancy by the Express Company "the past month" (*Figs. 2, 3*).[5] Here is a facade only slightly altered from the design of 1872. The center colonnettes are strengthened (and the above-mentioned point in the first and second stories "straightened out"), and the relieving arches of the end-pavilions have been omitted, so that there is the sense of "heavy lintels" (but not the pointed arches) mentioned by Wight in his later reference to the building.[6] From the date of publication these woodcuts would presumably represent the building as first built. One apparent inconsistency is in the windows of Charles Fargo's office (*Fig. 2*). This seems to have windows of two lights divided by a mullion-like form, making very tall rectangles, and the woodcut of the facade does not show such a proportioned light or window. Perhaps this inconsistency is due to haste on the part of the engraver. In any case the interiors would hardly have been drawn up, as shown here, before the building was up, and one can hardly doubt the explicit statement in the description that the *Land Owner's* artists visited the building, then in use, and made these drawings. The facade, as seen in the woodcut of 1874, seems obviously a reworking of the design published in 1872, with everything squared up into a curious sort of precision. We leave to Mr. Hitchcock the discussion of their

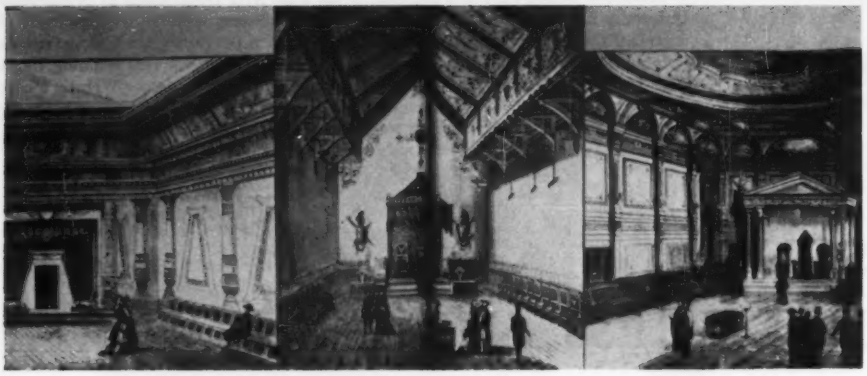


FIG. 3. Lodge Rooms, Knights Templar, in American Express Building (1874); Left, "Egyptian Hall"; Center, "Asylum of the Commandery"; Right, "Freemasons' Hall."

FIG. 4. American Express Building (1880).

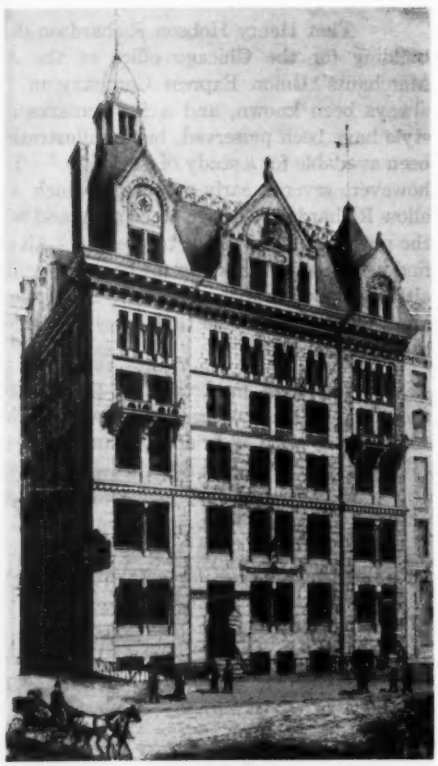


FIG. 5. American Express Building (1884).

FIG. 6. American Express Building, Main Office (1884).

relationship and place in Richardson's work (see following Note by H. R. Hitchcock). The engraver's haste is evident in the lack of detail and omission of indication of stonework, and the woodcut of 1872 remains a more careful record of Richardson's idea for the building. The rooms prepared on the 5th and 6th floors, extending through the two floors, each "as large as a good-sized church" we are told, were doubtless designed by Wight, who was on the spot.[7]

A woodcut published in 1880 (*Fig. 4*)[8] would, at first glance, seem to show that the building was built according to the design of 1872. However, on closer inspection it seems to be copied directly from the woodcut of 1872 (*Fig. 1*): note the pennants, weather-vane, and perspective of the building; and the names seem obviously cut into the drawing, indeed the Elgin Watch Company sign over the second floor was apparently allowed to remain by mistake and then chiseled out of the cut. It cannot be allowed much importance. More important are two woodcuts, an exterior and an interior, published in 1884 in a book glorifying American commercial developments (*Fig. 5*).[9] The foundations of the building are said to have settled soon after it was up, and it had to be rebuilt. These two woodcuts would represent how it was rebuilt, either between 1880 and 1884, if one trusts the woodcut of 1880, or, if one distrusts it, perhaps soon after 1874. At first glance the facade seen in the woodcut of 1884 looks like another building, but examination shows clearly that it is a reworking of the original design and perhaps the version of 1874, as it has round arches in the dormers. It is largely the increase in wall area and the obtrusive classic cornice that make it seem so different; actually, all the elements of the first design are present, even to the emphasis by stringcourses at 3rd, 4th and 5th floors and the passage of some kind of openwork decoration, with a circular motif, which connects the balconies across the central section at the 4th floor. There seems to be no doubt that this woodcut represents the building as it was finally built, with the entrance to the upper rooms at the extreme right of the facade.[10] The interior of the main office shown in 1884 (*Fig. 6*) offers the same contrast with that of 1874 (*Fig. 2*) as seen in the exteriors; a greater heaviness is introduced throughout, and the circular stairway is replaced with a more conventional and roomy one.[11] These complications need not detain us further, as this later history of the building has no connection with Richardson; enough has been said to show that the drawing of 1872 (*Fig. 1*) is of chief importance. With it are to be joined the description of 1874 and the drawings therewith.

We conclude, therefore, by calling attention to the plan of the building, which is described in the articles of 1872 and, more especially, of 1874, and which was considered one of its chief merits. We are told, in the description of 1872, that the building was "carefully planned" for the business, especially freight shipments, carried on by the American Express Company. It was 90 feet wide and 190 feet deep. The most distinctive feature was the division of the building, above the first floor, into two parts, so that there was an open space 30 feet wide extending crosswise entirely through it, affording light and air for the center of the "block." The description of 1874 tells us that the "money offices" and the vaults occupied the northeast corner of the building, which faced north; back of it was the "package and freight office," and then the "freight department" (*Fig. 2*), a large space 90x125 feet, in the center of which was a paved court 45x80 feet which could accommodate a dozen teams and allowed loading and unloading to take place under cover. This activity was assisted by the "great skylight" which the break in the building made possible (*see Figs. 1, 6*). All the offices, we are told, communicated directly with this large freight room. Much attention was given to the hazard of fire. The mansard had "an extra two-inch depth" of hydraulic cement under slate, the top roof was covered by heavy tin. Under the roof was a 4,000-gallon reservoir of water supplied by a steam pump in the basement. A pipe direct from a fire-plug outside brought water up to each floor, and a steam pump in the basement could throw a stream 50 feet above the roof.

The interior trim was "very bold" featuring wainscoting of black and white ash, according to the plans of 1872 at least; the description of 1874 refers to the counters and railings of the main office as "Gothic in form . . . of black walnut inlaid with delicate panels of rosewood and ash." The flooring was of "imperishable maple." The iconography of the figurative decoration was drawn from the activities of the Express Company. Concerning the interior of the main office, we read in the description of 1874, "The glass panels of the counter front are embellished with a series of symbol pictures illustrating the history of transportation in America —stage-coach, canal-boat, primitive steamboat, etc.—down to a full train of cars. The other counter panels are treated in a similar style of symbol paint-

ing relative to the history or industries of the company, the everlasting bulldog in miniature surmounting the tall posts between the panels of the counter front, while on the walls of the vaults is a magnificent *alto relievo* with the trade-mark of the company, a giant bulldog defending two safes" (*cf. Figs. 2, 6*). The motif in the center dormer of the design of 1872 is, I take it, a safe; in that of 1874 it is the bulldog on guard. But the motif at the same place in the woodcut of 1884 is undecipherable. (Is it the dog alone? The figure near the left doorway in the last woodcut appears to be some figure of Mercury or Time or the like.[12])

The building, therefore, was an important attempt to design a solid and impressive business structure, carefully planned and organized for a given commercial use, with sculpture, painting, and some kind of painting on glass called upon to carry out the chosen theme to the end. It shows an effort to grasp the architectural problem of the commercial building as a whole, which came to its conclusion, in Richardson's work, in the Marshall Field Warehouse of 13 years later. Some serious ideas as to the possible expressiveness of good commercial architecture, perhaps stemming from Richardson by way of Wight, gleam through the cloudy utterance of civic and commercial pride found in the *Land Owner's* exordium:

"The idea in the erection of the building, suggesting, primarily, the massive plan of construction, and, in a secondary way, the features of extraordinary height, magnitude and capacity, and, in a still subordinate sense, the majestic front and the refined harmony of architectural proportions, was the conception of a structure that would afford model accommodations to a transportation company holding large and public relations with the great national interests and industries of commerce, to give to such a building a form and expression of solidity and strength that would be practically emblematic of the commercial solidity of the corporation, and at the same time to bestow such attention on the architecture and frontage of the building as to lend it the interest and charm of art and to render it a magnificent ornament to the new city. The result has been the erection of a model express building, the most complete in the world, and one of the most remarkable structures of modern times."

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1. Most of the illustrations given here were first presented in a paper read at the meeting of SAH at Chicago, January 27, 1950.

2. See Henry-Russell Hitchcock, *The Architecture of H. H. Richardson and His Times*, New York, 1936, pp. 132-133, and earlier bibliography given there.

3. *The Land Owner*, IV, p. 197, with description p. 186. The architect is not mentioned. This illustration was republished at least twice by the same publisher, apparently from the same plate. (See *Chicago Illustrated: Two Years After the Fire*, Chicago, 1873, J. M. Wing, p. 3; and *Illustrations of Greater Chicago*, Chicago, 1875, J. M. Wing, p. 9.) All these represent the same drawing, and it is here referred to as "the woodcut of 1872."

4. A conspicuous example among many is the building for the Inter-State Industrial Exposition, published in the June issue of Vol. V (1873), pp. 100-1, 192-93, showing exterior, interior and plan, all taken, it is explicitly stated, from the drawings of the architect, W. W. Boyington. The *Land Owner* forms a very valuable source for architecture in Chicago of around the time of the fire, and it should be better known. The first volume (1869) illustrated almost no buildings, the second and third about a dozen each. Beginning with volume four (1872), however, it became almost an architectural journal, expressing Chicago's pride at the rapid rebuilding of the city, and illustrating the chief buildings as they were planned or completed. This continued through June 1874, at which time the publisher announced that the rebuilding of the city was complete, and adequately recorded by his efforts, and the journal returned to its former devotion to real-estate developments exclusively. Among its more important achievements was the publication of 14 of the designs submitted in the competition for the new city-county building, Vol. V (1873), pp. 69-75, 86. These are evidently the woodcuts, known to Thomas E. Tallmadge in a scrap-book, on which he based his discussion of the competitive designs, apparently without knowledge of the *Land Owner's* existence. (See his *Architecture in Old Chicago*, Chicago, 1941, pp. 128-32.) The *Land Owner* has been relatively unknown, not only because of its being apparently a real-estate publication, but also because files of it are extremely rare, and none complete, the Union List of Serials showing the only file approaching completeness being in the Newberry Library, Chicago. The recent book by Frank A. Randall, *History of the Development of Building Construction in Chicago*, Urbana, 1949, is the first modern publication to make use of this important source.

5. *Land Owner*, VI (1874), p. 49, showing interiors as well as the exterior, with description p. 54, entitled "The New Home of the American Express Company in Chicago." The architects are given this time, as Gambrill and Richardson "of New York," and P. B. Wight, "of Chicago." Six interiors given over to the Knights Templar on the 5th and 6th floors are also illustrated pp. 56-57 (*cf.* Fig. 3).

6. *Inland Architect*, VII (1886), pp. 59-61.

7. The Knights Templar did not make arrangements to rent space in the building until December, 1872, and they held their annual meeting there December 2, 1873. Between these dates the *décor* was doubtless planned and carried out by Wight, as the description of 1874 states these halls were "built expressly for, and occupied by, the Masonic fraternity." See Norman T. Gassett, *History of Apollo Commandery No. 1, Knights Templar, of Chicago, State of Illinois*, etc., Chicago, 1884, pp. 31-32.

8. *Chicago Illustrated, 1820-80*, Chicago, 1880, Vandercook, pp. 30, 75.

9. [Emily Wright], *From the Lakes to the Gulf*, Chicago, 1884, Illinois Central Railroad, pp. 33, 35. A view of an artist's studio (G. F. Bromley's) is given on p. 32, but shows nothing of the building. These illustrations occur in a description of the American Express Company as an example of American business enterprise.

10. Mr. Frank Burmeister, formerly of the American Express Company, who worked in the building for years, and Mr. Percy H. Sloan, whose father, the painter, Junius R. Sloan, had a studio in the building and who remembers playing in the building as a boy, and others, confirm this from memory. A photograph by F. W. Taylor, taken after 1884, showing the S. E. corner of Dearborn and Monroe Streets, and published in *Chicago and Its Makers*, Chicago, 1929, Mendelsohn, p. 365, apparently shows just a slice of the right hand side of the facade, but the photograph is so dark there that nothing can be told about the Express Company Building. The building also appears in a birds-eye drawing, made from a photograph taken in the early 1890's, in Rand McNally's *Birds-eye Views and Guide to Chicago*, Chicago, 1893, as building No. 6 (although not correctly identified in the accompanying text), but seen from the rear and at a great distance. This drawing is reproduced by Randall, *op. cit.*, p. 167. Similar photographs are found in stereographs now in the files of the Keystone View Company, Meadville, Pa., but show almost everything but the American Express Building. The present American Express Company has no pictures or records of the building, as I am informed by officials of the company, particularly Mr. M. M. Noon, New York, Vice-President in charge of their centennial celebration this year.

11. The double-lighted window seen above the entrance in the woodcut of 1884 would seem to provide a window of the proportion seen in the interior of Charles Fargo's office in 1874 (Fig. 2), but we can hardly assume the building already stood as shown in the woodcut of 1884 without positive disproof of the *Land Owner's* direct statement, which I have not found. The building permits of the city of Chicago which would apply have been discarded long ago. For the later history of the building see Randall, *op. cit.*, p. 80. The building, however, stood until 1930, being gutted by fire on June 7, 1930. At that time it was owned by the Lehman Estate and the contract for wrecking it I have seen in the office of the estate, courtesy Mr. Robert Lehman, dated August 26, 1930. Photographs of the fire are found in the *Chicago Tribune*, June 7, 1930, p. 30, and the *Chicago Daily News*, June 7, 1930, p. 3, but neither shows anything about the building.

12. The building cost $350,000.00 according to the description of 1874, and this is said to have been five times the cost of "the average first class office building" of the time in Chicago. The square footage obtained was 106,200 feet.

HENRY-RUSSELL HITCHCOCK'S note for the preceding paper by Professor Webster has been given a broader significance through his correlating it with information and ideas developed subsequent to the publication of his definitive book on Richardson, and by placing it against the background of his recent investigation of English Victorian structures.

RICHARDSON'S AMERICAN EXPRESS BUILDING: A NOTE

In the fifteen years since my book on Richardson[1] appeared various buildings and projects that were then unknown to me have come to my attention. The fact that the Baptist Church in Newton illustrated[2] in the book was the wrong one was early brought out by Kenneth Conant in a review. Later in preparing an exhibition of Buffalo architecture I myself found the Dorsheimer house of 1868 still standing on Delaware Avenue. The published plan[3] was very evidently not for that house and presumably not of that date.[4]

Unfortunately neither the plan of the Buffalo house nor that of Richardson's own house at Arrochar on Staten Island, another important late find, are available. Judging from the present state of the interior of the Dorsheimer house in Buffalo, its original plan was of no particular interest. The house at Arrochar I know only from the Wayne Andrews photograph.[5] Considering the great importance of the planning innovations in Richardson's Codman house project[6] lack of precise information about these house-plans of the late sixties is unfortunate. Vincent Scully has accepted my suggested date of c. 1869 for the Codman plan. Now, with a clearer conception of the pace of the development of house planning in England in the 1860's and early 1870's, I rather suspect that this remarkably significant plan should be dated at least a year or two later. Indeed it seems to stand midway between the rather casually agglutinated plan of the Andrews house[7] in Newport of 1872-73, with its multiplicity of rooms around a "living-hall" and its very extensive piazzas, and that of the Watts Sherman house in Newport of 1874-76, which is so much more coherent and compact.[8] But the lack of Norman Shaw influence in the Codman elevations makes more likely a date just before the Andrews house.

Hawkins Ferry called to my attention some years ago the interesting laminated wooden arches of the Bagley Armory in Detroit. Commissioned as late as December, 1885, the original design of the Armory was doubtless approved by Richardson before his final illness removed him from the office forever. But such constructional matters would probably have been entirely due to the ingenuity of Rutan. Mr. Ferry now tells me that there is extant domestic work for the Bagley family in Detroit. Since the Bagley Fountain was commissioned in April, 1885, it is possible, even probable, that any private work was discussed with Richardson during the course of that year. But there seems to be no documentary evidence of a commission. Even if Richardson made or approved preliminary sketches, I believe the work must have been initiated after his death and hence, at least technically, a Shepley, Rutan and Coolidge commission. Publication of this domestic work for the Bagleys should offer internal evidence as to its Richardsonian or post-Richardsonian character, even though in domestic interiors the borderline is a very loose and vague one.

It is perhaps not surprising that the lately discovered Richardson work should be mostly domestic, since houses are less conspicuous and less well documented than monumental work. Now that the major significance of Richardson's early domestic work is widely recognized, as it was not by Mrs. Van Rensselaer, this modest gleaning is not without real interest. One monumental project has also turned up. A perspective of an urban church and contiguous parsonage in Columbus, Ohio, (just which church, scholars at Ohio State might well set themselves to finding out) was published in *The Architect* (London) for October 5, 1872. Although this design is not intrinsically very important, such early recognition of Richardson's rising star abroad is of some interest. The left hand tower, moreover, capped with a sharp Butterfieldian pyramid of a spire, has something of the quality of that of the Brattle Square church in Boston, just then completed, perhaps Richardson's first really masterly piece of work. The date of this design would prob-

ably be late 1871 or early 1872, just before the competition drawings for Trinity were started, and the draftsman McKim rather than Stanford White.

The existence of a missing link in our knowledge of Richardson's development as a commercial architect has long been disturbing. The gap between the rather inept Phoenix Insurance Building in Hartford of 1872 and the distinguished Cheney Building there of 1875-76 was only covered by Mrs. Van Rensselaer's and Peter B. Wight's brief and ambiguous accounts of the Express Building in Chicago of 1872-73. J. Carson Webster's discovery of the original project for this in the *Land Owner*,[9] published two months after Richardson received the commission in September 1872, together with two views (surprisingly not in agreement) of the completed edifice (one in a later issue of the *Land Owner*,[10] just after its completion, and the other ten years later in *From the Lakes to the Gulf*[11]) adds a new and interesting work to the Richardsonian canon. It also requires some reconsideration of the story of the development of commercial architecture in America. Since the erection of the building was supervised not by Richardson, but by Peter B. Wight, and since the collapse of the front wall during construction required some modification (presumably largely due to Wight) of the originally very open facade design, Richardson's responsibility for the structure as finally executed was not complete.

Leaving to Mr. Webster the problem of working out precisely what the final form of the building was, I prefer to confine myself here to a discussion of the original project of the fall of 1872. As that was accessible in the pages of the *Land Owner* to architects, builders and clients in Chicago, if not elsewhere, in the 1870's and 1880's, this project could easily have influenced them. It certainly represents, more than the modified facade of the building itself, Richardson's particular contribution to commercial design at this crucial period of his development.

The supposedly "Romanesque" elements (never, as the later illustrations indicate, more than the use of round instead of pointed arches over the dormer windows) that Mrs. Van Rensselaer thought "entitled it to rank as the first of his commercial structures that can be called characteristic" are not present in the project. Her further remark that "it is still nondescript rather than consistent in style" gives, within the limits of her stylistic vocabulary, a better idea of its character. The superiority of the project to Richardson's earlier commercial work, and notably to the Phoenix Building just built that year in Hartford,[12] is, however, very real. Its complete lack of resemblance to his later arcaded commercial facades, which begin with the Cheney Building in Hartford of 1874-75 and culminate in the Marshall Field Wholesale Store in Chicago of 1885-87 and the Harrison Avenue Ames Building in Boston of 1886-87 is surprising[13] to say the least.

This five-story facade, with its high, dormered mansard, is actually more open in design than the later arcaded buildings. In the future its possible influence on commercial design in Chicago must be taken into account. I will touch upon this at the end of this note; now we are concerned as to Richardson's sources for this sort of design rather than as to its ultimate effects.

I have published elsewhere[14] a considerable account of the development of the *palazzo* and of the arcaded types of monumental commercial architecture in Great Britain. There I noted to what a surprising extent the characteristic compositional devices of Richardson, and after him of Sullivan, in the period 1875-1895 had already been adumbrated by English Victorian architects in the preceding thirty years. Unfortunately I have not had occasion to publish as yet an account of the parallel development in Great Britain of those types of commercial facades that were articulated not by arcades but by post-and-lintel devices. In Great Britain these may be subdivided into an important group that is horizontal in the organization of the design—American architects and builders, working in monolithic granite, had preceded the British along this line in the 1820's and 1830's—another group in which the emphasis is vertical; and finally such as are evenly reticulated, without predominant horizontal or vertical stress. Whether or not iron members are visibly present at the wall surface, these articulated facades, with their wide window openings closely set, are more directly expressive of the iron cage of cast iron supports and wrought iron beams inside than any arcaded scheme can be.

Richardson's 1872 project for the Express Building has relatively solid side walls and the elaboration of the top, with its high roof accented at the corners and its heavy masonry dormers, is very plastic. Yet in international terms it is primarily an advanced example of horizontal articulation, with some minor touches of vertical articulation. Before we can consider which, if any, precise English prototypes influenced Richardson here we must

recall what his general relation to English contemporary work up to this time seems to have been.

I believe it is now generally recognized that from his first American work, the Unity Church of 1866 in Springfield, on through the 1870's Richardson owed (not only superficially, as the source of various borrowed motifs, but also in important matters of planning and compositional devices) as much to contemporary English practice as to either his French training or the architecture of the Romanesque and other earlier periods. What I myself did not realize fifteen years ago, despite very considerable study of the English magazines which had presumably been accessible to Richardson, was how specific the contemporary English influence on him frequently was nor that, in the 1860's and even the very first years of the 1870's, he chose models for imitation with very little discrimination. It was not from the work of the sophisticated leaders of the High Victorian Gothic, Butterfield, Street, Burges and Bodley that he borrowed the peculiar detail on the Unity Church. The Low Church innovators in design, Bassett Keeling and even F. T. Pilkington, if not "Victorian Harris," whose brash ideas were generally more sympathetic to George Godwin, the editor of *The Builder*, than those of the High Church men and the originators of the "Queen Anne," seem to have been his favorite mentors then. The influence I noted of George Gilbert Scott's Foreign Office on the Western Railway Office of 1867 is merely incidental; the real model was certainly the National Discount Building at 65 Cornhill in London by those commonplace commercial architects Francis and Francis, though fortunately somewhat purged of the excessive ornamentation of the original.

Richardson's ability to discriminate in his borrowings from High Victorian England developed rapidly in the early 1870's. It still seems to me probable that it was the arrival of the young McKim in his office in June 1870 to work on the drawings for the Brattle Square Church that helped Richardson to examine more critically contemporary English works—with which McKim certainly had some acquaintance at first hand—as presented in the magazines. He evidently soon learned to distinguish between the general run of material published in *The Builder*, reflecting the rather crude taste of George Godwin, from the work of the more sensitive architects that Godwin considered excessively archaistic. The rather superior character of much of the material published in the *Building News* and after 1869 in *The Architect* (with which Richardson certainly had established contact by 1872, as the publication of his Columbus Church project evidences) in time led him toward an appreciation of the work of Burges, E. W. Godwin and Shaw. For it is their influence which became evident in the mid-1870's and eventually proved to be crucial in the gradual maturing of his own personal style. Just when Richardson acquired Nesfield's, Burges' and Shaw's books of sketches of mediaeval architecture on the Continent is not clear; but Burges' did not appear until 1870, and it was the second edition of Shaw's, the one that appeared in 1872, which he owned.

Richardson's designs of 1870 are on the whole as much French as English. It is the Hampden County Court House, commissioned in 1871, which first shows Richardson borrowing unmistakably from the more sophisticated contemporary English architects. The tower of this does not come straight from mediaeval Italy but from Burges' design for the London Law Courts, published in 1867, on which he had the assistance of E. W. Godwin. The composition of the facade follows closely that of Godwin's town hall designs of the 1860's, notably that executed at Congleton. The mullioned windows and the dormers, both in the project of 1871 and as executed in 1872-73, have more of the delicacy and refinement of Shaw's and Nesfield's work; indeed as executed the dormers follow very closely those on Cloverley Hall, the first important work of the young English architects.

In Richardson's commercial work of 1872 we might, therefore, expect to find as in the planning of the Codman house project (and even more obviously in both the plan and the elevations of the Andrews house of 1872) similar evidences of influence from the men who were just being recognized as the leaders of the new "Queen Anne." Nesfield and Shaw were not however very active in commercial work. Neither their half-timbered bank in rural Farnham nor *a fortiori* Philip Webb's modest range of three-storeyed shops in Worship Street in London offered suitable prototypes for a large iron-framed structure in the heart of the Chicago Loop.[15] The pattern of Burges' Skilbeck warehouse in Thames Street in London of 1866, particularly influential in London around 1870, with its gable over two narrow bays linked vertically, was also not readily extensible to a broad facade. And superposed single-storey arcades, so superbly illustrated in George Aichison's Mark Lane facade in London of 1864-65, were too closely associated in the American mind with the

facades of ready-made iron components, acquired from ironfounders and set up without benefit of architect, to appeal to ambitious professional designers such as Richardson or to the clients who went to the trouble and expense of employing them.

The most interesting of Richardson's earlier commercial designs had been the project of 1867 for the Equitable Insurance Building in New York.[16] Inside this a central glass-and-iron-roofed light court was apparently intended to be surrounded with screen walls entirely of glass and iron; while in the two principal storeys very broadly spaced iron columns supported with elaborate brackets ranges of galleries around this central area. On the exterior, above a range of haunched segmental arches (like those C. R. Cockerell seems to have been the first to use in the Sun Assurance Office in London in the early 1840's) the windows of the two principal storeys were linked by a single tall arcade in the manner Edward Walters had introduced in Manchester around 1845 and continued to use intermittently into the 1860's. Below the heavy bracketted cornice the fifth storey windows were coupled to form a sort of frieze. The corner bays of the facades were differentiated slightly, but the high mansard was not broken out over them.

Beyond this facade scheme of 1868, that of the Phoenix Building in Hartford, designed early in 1872, represented no sort of advance, except perhaps in its rather chaotic use of brick and stone polychromy with inset accents of coloured tile. The ground storey arches there were hardly set close enough to constitute an arcade; the slight projection of the corner bays appears only in the top storey; while the central gable, with its crowning Phoenix, is unrelated to the machicolated brick cornice or to any important central feature below.

To this immediately preceding work the project for the Chicago building fortunately bears no relation at all. But except for its high roof it is almost as devoid of similarity to the Equitable project. The scheme of the composition provides an articulated masonry skeleton. Moreover, both vertical supports and horizontal lintels are reduced to minimum thickness at the building's surface by heavy chamfering. Whether the columns and mullions in the central and corner double bays were intended to be of iron is not clear—in the version of the design finally executed they do not seem to have been.

More than in his earlier commercial work, the unity of the mass is made complex by a slight projection of the wall plane of the corner bays. This is carried upward by pavilion roofs of steeper pitch than the main roof. That on the right terminates in a tall metal spire crowned with a weathervane; but this feature was much shortened in the executed building. That on the left, at the street corner, is much more complex; there a sort of observation platform, enclosed by four curved bay windows above slated bases, rises out of the square pavilion roof below. This likewise was much simplified in the final execution. A very wide central dormer of stone with a gable, prominent finials and two side wings (much modified in execution) occupies the center of the roof on the front. Smaller gabled stone dormers are set against the corner pavilion roofs. In the project the arches in the dormers are pointed; in execution, as has been said, they became round. Elsewhere there are, properly speaking, no arches, although a shallow segmental curve links the pilaster strips flanking the terminal bays in the principal storey, while a similar flat curve is carried over the broad triple light in the center of the facade in this storey.

In the upper three storeys the pilaster strips flanking the end bays are continuous and give a suggestion of vertical articulation. This seems to follow a frequent English pattern of the 1860's in arcaded facades, probably initiated by Waterhouse in his Royal Insurance Building in Manchester of 1861,[17] where stone-gabled dormers against a relatively high roof were also early introduced. The rapid and continuous rhythm of the narrow fifth storey windows (which was broken, in execution, into pairs over the large windows below in the central section) improves on the frieze-like treatment of the fifth storey in the Equitable project. Two of the more obvious English precedents for this treatment of the top storey would be the Tait warehouse in Southwark Street, London, of 1864 by R. P. Pope and the General Credit and Discount Company's offices in Lothbury, behind the Bank of England, of 1867 by G. Somers Clarke, although in the former case the little windows are arched rather than trabeated. As designed, this clearly provided the prototype of the top storey treatment of the Marshall Field Store built a dozen years later.

Above this frieze of windows the cornice supported on widely spaced diagonal brackets was to have been very bold and "realistic." In execution modillions of a more classical character seem to

have been substituted, probably by Wight, with considerable loss of vigor. The almost equally vigorous moulding of vertical and horizontal members back from the outer wall plane seems likewise to have been lost in the final execution, although the less open effect is apparently even more due to an actual narrowing of the windows and a widening of the intervening piers.

An arcade on mullion-colonnettes had provided in England the most usual method of attaining plasticity in a commercial facade by modelling the masonry structure back from the outer wall plane. Here in the projected facade mullion colonnettes were intended in the end bays of the ground storey and in the central double bay of the second storey. In execution colonnettes were introduced more freely as if to make up for the increase in the flat wall surface elsewhere. It may be only a deficiency in the woodcut which suggests that in the fifth storey of the project pilasters rather than colonnettes had been originally intended; there were certainly colonnettes in this storey of the executed building.

But predominantly a different device was used to model the edges of the openings in the project. At first sight it may appear that stone brackets were to be used to reduce the span of the lintels in the very literate mediaeval manner of the trabeated openings in Burges's Skilbeck warehouse facade. But actually this was not the case, as the location of the horizontal stone joints clearly indicates. What Richardson intended was to use a heavy diagonal chamfer on the vertical members, stopped well below the top, and a comparable chamfer, given in a few instances a segmental lift, under the lintels. Above the colonnettes square blocks provide a similarly haunched effect to the top of the openings. This sort of chamfering is very characteristic of the mature High Victorian. A particular favorite with seasoned *fauves* like E. B. Lamb, it took hold amazingly with the less sophisticated commercial architects in the 1860's. Nor was it by any means eschewed by the more literate: they could confirm their penchant for chamfering with the authority of Viollet-le-Duc, as Richardson himself may well have done. It had been, at least as regards the treatment of the under side of the lintel, a favorite device of his since the Crowninshield house in Boston of 1868. Still a prominent feature of the linteled openings of the Brattle Square Church which he was just completing, chamfers are not entirely lacking in the drawings of this year and the next for Trinity Church.

Unlike the Cheney Building of three years later, the Express project shows no coherent assimilation of English commercial modes of design. By its relatively great height and its prominent pavilion roofs and dormers it actually achieves a greater monumentality than most English work. It incorporates no specific major features borrowed from distinguished English contemporaries as does the Hampden County Court House. Yet the general effect of the design is definitely within the range of English High Victorian work, both as regards the articulation of the wall screen in a way that echoes the iron skeleton of the interior and in the particular devices used to model this stone screen back from the facade plan.

In its openness this facade vies with, but hardly emulates, the effects achieved by the founders and builders of American castiron fronts. But instead of the patently *ersatz* plasticity of Renaissance orders in hollow metal supporting elaborately moulded archivolts or entablatures of an equal hollowness, it substitutes the crude but vigorous plasticity of chamfered stone-work in the taste of High Victorian "realism." Frank and masculine, without being brash or aggressive, it might well have opened a line of development in Richardson's work toward a formula more open and less ponderous than the line of his arcaded commercial buildings. Subjected to the simplification that so much improved his domestic manner after 1880, it might have led to things as fine as the Field Store and yet more directly expressive of the iron skeleton behind. Actually in Chicago something of this sort did eventually occur. Jenney and Mundie's second Leiter Building of 1890 represents, in hands less accomplished than Richardson's, what could come of this line of development when it was allied with the later technical development of the supporting metal skeleton which had just created the skyscraper.

Moreover knowledge of this project suggests that a revision may be necessary of the story of Richardson's influence on Sullivan. From the Auditorium through perhaps the Guaranty Building the specific influence of the Marshall Field Store on Sullivan can be traced, at first strong and unassimilated, then progressively weaker and less essential to the total effect. But before the Auditorium and in Sullivan's terminal masterpieces, the Gage Building and Carson Pirie & Scott—even perhaps

in the Wainwright Building—the influence of Richardson has appeared to be absent or negligible. Evidently there was a continuous line of development in the designing of facades for skeleton structures that ran through from Sullivan's Rothschild Store of 1880-81 to his Chicago buildings of 1898 and 1899. From this the buildings more or less influenced by the Field Store seem to represent an unnecessary, if not necessarily an unrewarding, detour.

Five or six years separate Richardson's Express Building from the first building that Sullivan designed for Adler, the Borden Block of 1879-80. Is it fantasy to see in that resemblance to the still very prominent earlier structure in the overall horizontal articulation, in the colonnette-mullions of its top-storey, and in the clumsy but narrow mullions used throughout? Can the triple division of the two bays of Sullivan's Rothschild Store of 1880-81 be linked to the central triple bay in the Richardson project with its equally narrow (and probably metallic) mullions, even though this motif was not used in the executed facade? Are the segmental lintels here on the third storey related to those in the Richardson project? Or is the top storey on the Ryerson Building of 1884, with its rapid rhythm and its baluster-mullions, possibly an echo of Richardson's fifth storey, as designed and not as executed? Those who know Chicago commercial work of the mid and late 1870's better than I may have an answer to these multiple questions as also to the parallel and broader one: May the other early skyscraper architects, Jenney and Holabird & Roche and the rest, not have owed a debt to Richardson that has never been acknowledged? At the least we may now state that Richardson in this project brought to Chicago in 1872 the English concept of a horizontally articulated masonry facade. Once again we must recognize him as a significant link between the High Victorian of England and the specifically American architectural achievements that his own work initiated in the last quarter of the nineteenth century.

SMITH COLLEGE

1. Hitchcock, Henry-Russell, Jr., *The Architecture of H. H. Richardson and His Times*, New York, 1936.

2. *Op. cit.*, fig. 116.

3. *Op. cit.*, fig. 16.

4. Vincent J. Scully, Jr., in an unpublished Yale dissertation, *The Cottage Style*, 1949, has suggested that the published plan was probably for a house intended to be built for Dorsheimer in Albany in the years immediately following 1875, when Dorsheimer, as Lieutenant Governor of New York, was instrumental in bringing in Richardson to complete the Capitol.

5. No. 262.

6. Hitchcock, *op. cit.*, fig. 21b.

7. Hitchcock, *op. cit.*, fig. 35.

8. The original Watts Sherman plans, discovered by Mrs. Antoinette Downing and the Newport Preservation, have not yet been published.

9. Nov. 1872, p. 197, with account on p. 186.

10. April, 1874, t.-p., with account on p. 54.

11. [Emily Wright,] Chicago, 1884, p. 85, with interiors on pp. 32-33.

12. Hitchcock, *op. cit.*, fig. 34.

13. Hitchcock, *op. cit.*, figs. 52, 127, 138.

14. "Victorian Monuments of Commerce" in *Architectural Review*, February, 1949, pp. 61-74.

15. The English buildings mentioned were all illustrated in magazines presumably accessible to Richardson before 1872.

16. Hitchcock, *op. cit.*, figs. 12, 13.

17. This and the other English examples mentioned in the next few paragraphs were all published in magazines presumably accessible to Richardson before 1872.

CHRISTOPHER TUNNARD is the Director of Planning Studies in the new program for the degree of Master of City Planning instituted at Yale University. His wide knowledge of planning techniques has encouraged him to challenge the categorical acceptance of the idea that the Columbian Exposition of 1893 was primarily retrogressive in its effects.

A CITY CALLED BEAUTIFUL

One of the artist's aims, according to Thomas Cole's biographer, Louis L. Noble, is "to see again the old things as if they were new."[1] My excuse for discussing somewhat familiar material is based on a conclusion that the City Beautiful movement stood for more than its official title implies[2] and that the most important of its contributions to American planning have been obscured in recent years by a fashionable denigration of its architects and their ideas.

A conditioned hatred and envy of wealth, which extends into the ranks of our intellectuals, has enveloped the names of St. Gaudens, McKim, Stanford White and Burnham with a miasma of suspicion based largely on their crime of subservience to the Robber Barons.[3] That they also built for the public, not always at great profit to themselves,[4] is often overlooked; if it is remembered, the accomplishment is at once denied by attacks on the style of their civic work, which is no longer acceptable. Much of this criticism centers on the World's Columbian Exposition of 1893; in particular Louis Sullivan's remark to the effect that the Fair would hold back the growth of a native American architecture for fifty years is quoted in reinforcement.[5] (Whether in modern society there can be any such thing as a "native" architecture is a debatable point. Certainly all architecture worthy of the name and built in this country may fairly be termed "American.")

Apart from the fact that the architecture of the Fair was excessively admired[6] . . . the undoubted fact that the enterprise at once became a symbol which influenced people far deeper than the logic of simple construction may have some relevance here[7] . . . its attackers ignore a fundamental contribution to American civic art: the restoration of the principle of coordination. This went much further than the introduction of the much-publicized "uniform cornice line" or the quite arbitrary decision to employ a single color scheme.

Henry Adams, a critic not easily deceived, observed that many trends had fused in the White City[8] . . . that it was, indeed, a symbol of national unity. True, it was a "traders' " city, but then so were Corinth and Syracuse and Venice, none of them the less beautiful for that. Above all it was the *conception* that appealed to this philosopher, musing under the dome of Hunt's Administration Building, . . . the thought that here a city had been built, at prodigious cost, to crumble, of course, like paper; but in it the three American strains had met: the pioneer frontier strain in the construction; the cooperative planning strain of Washington and John Quincy Adams; and the searching Jeffersonian strain, playing on an international theme and accepting only the best the arts and sciences could offer. "Chicago [meaning the Fair] was the first expression of American thought as a unity," said Henry Adams. "One must start there."[9]

As John Gaus has recently reminded us,[10] an official planning movement stemmed from the Fair.[11] About two decades later the movement began to proliferate into separate endeavors[12] but before this happened a remarkable flowering of American civic planning had appeared. That this was a product of the teamwork first undertaken in Chicago is significant; it suggests that the Renaissance principle of collaboration was consciously if briefly revived in an age otherwise characterized by its "rugged individualism." Collaboration in civic art had not in fact been seen since Jefferson's time, although there had been a sympathy of aims as late as the 1850's among followers of the Greek Revival. When even this was destroyed by the Civil War and the second railroad age had begun, the changing American city faced its most desolate period. Old centers and squares were swept away, carved through by railroads or destroyed by new building; no sense of unity remained. The most important architectural figure to emerge was Richardson; his own civic buildings and those of his imitators, which by the late 80's had dotted the cities of the East and the mid-West, at least had the unity of a style; but there is no hint in them of the civic complex or indeed of anything approaching a consciousness of the total central form. These buildings would have lent themselves admirably to the plans of a precinctual nature suggested by

FIG. 1. *Le Bois Sacré* by Puvis de Chavannes. In the museum at Lyons.

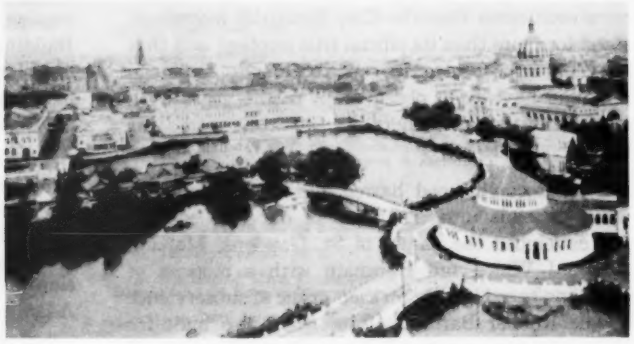

FIG. 2. View of the Lagoon at the Chicago Fair of 1893 showing the tip of the wooded isle. *Photographs of the World's Fair*, The Werner Company, Chicago, 1894.

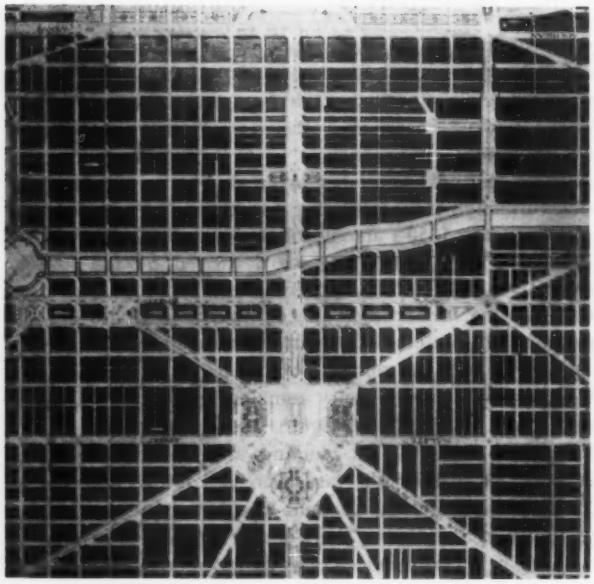

FIG. 3. Central Portion of the Plan of Chicago. *Plan of Chicago*, The Commercial Club, Chicago, 1909. (Compare with (4).)

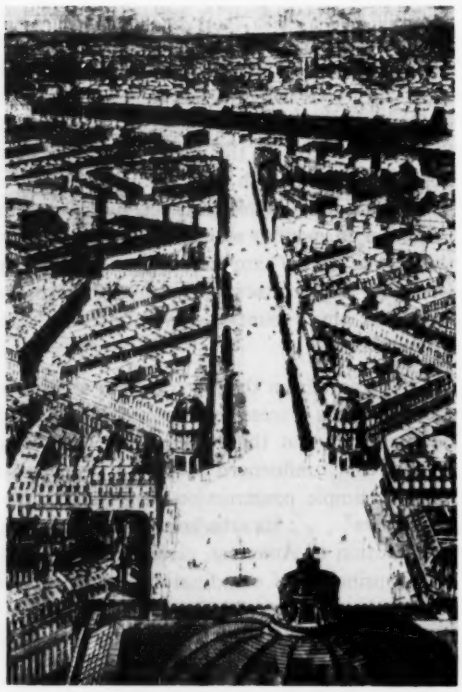

FIG. 4. Avenue de l'Opéra, Paris. The creation of Georges-Eugène Haussmann. From a contemporary engraving.

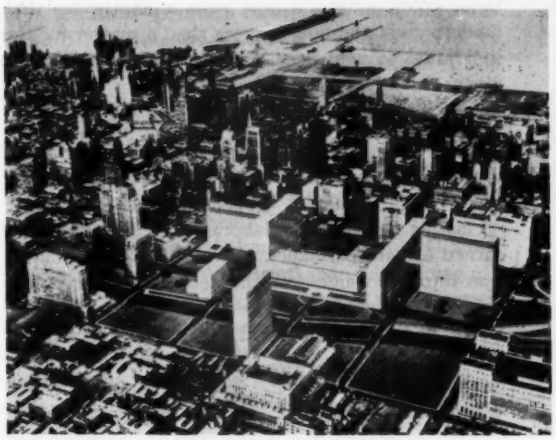

FIG. 5. Proposed Chicago Civic Center showing the contemporary French influence of Le Corbusier's plan for the center of Paris. *Chicago Civic Center*, Chicago Plan Commission, Chicago, 1949.

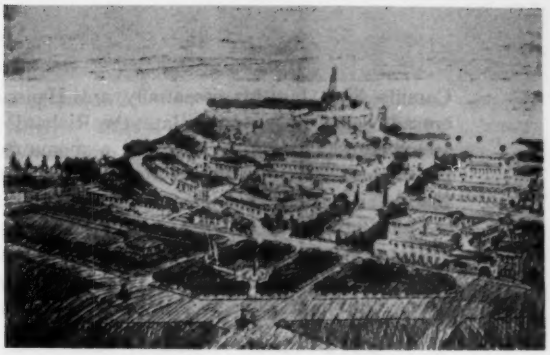

FIG. 6. Suggested Architectural Treatment of Telegraph Hill, San Francisco. From a drawing by Edward H. Bennett. *Daniel H. Burnham*, Charles Moore, Vol. 2, p. 60.

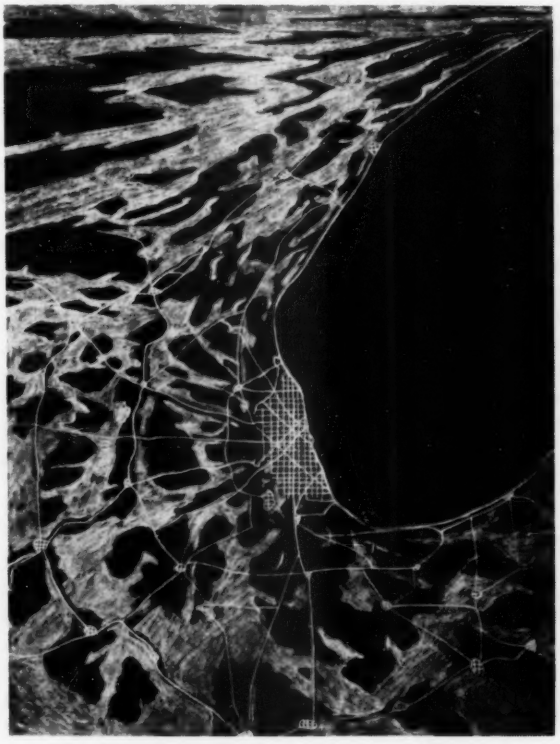

FIG. 7. Sketch by Thomas D. Ward after Guérin, showing the towns of the Chicago region connected with the central city by radiating and circumferential arteries.

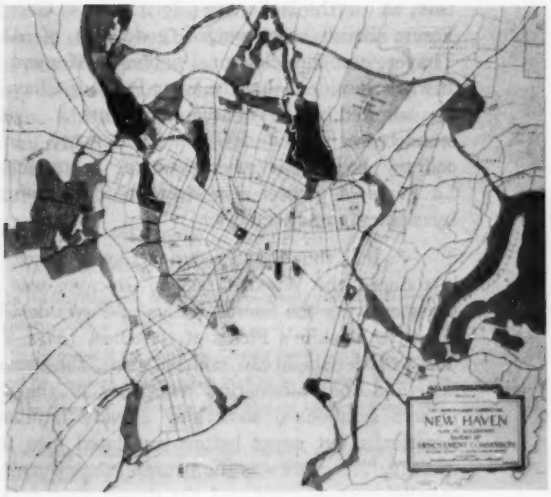

FIG. 8. Plan for New Haven by Cass Gilbert and Frederick Law Olmsted, Jr., showing inner ring roads and continuous greenbelt. *Report of the New Haven Civic Improvement Commission*, New Haven, 1910.

Camillo Sitte but his essentially anti-Haussmann crusade came ten years too late; the Richardsonian architectural innovation remained a monument to the exuberant genius of one man, whose death in 1886 left a gaping void into which stepped a team or architectural experts excited by a new faith . . . their testament fashioned by the urbane Boston library which slipped smoothly into place across the "square" from an already isolated Trinity Church.

St. Gaudens' oft-quoted remark on the Fair[13] is revealing in showing an awareness of the great collaborations of history. It is doubtful, however, that the idea of collaboration among artists . . . already well established at the Beaux Arts in Paris . . . would have lain fallow much longer. What Oliver Larkin calls a Renaissance complex[14] had already developed in some American artists. Perhaps a more significant name for this would be *Arcadian Revival*, since the school, if it may be so termed, was devoted to ideals part Greek, part Roman, part Renaissance and part romantic. The way had been prepared in the 70's by Pater and Symonds in literature, by Böcklin and Hans von Marées in painting, by Jarves and Norton in collecting; and toward the 90's it was possible for an artist to reconcile the pagan rite with Christian festival, the satyr with the saint. The symbolism of La Farge and the heroic naturalism of St. Gaudens . . . "a child of Benvenuto Cellini smothered in an American cradle," as his friend Adams called him . . . are more easily understandable in this context; as are the Italianate pilgrimages of George de Forest Brush; the winged goddesses of Abbott Thayer; and the allegorical figures of Kenyon Cox. It was no accident that the aging Puvis de Chavannes was admired by the Arcadian architects . . . no one stood better than he for the idyllic in art. In this country he has overshadowed the more versatile La Farge, a painter now overdue for examination by contemporary critics.

It is thus that Frederick Law Olmsted, who introduced the Wooded Isle at Chicago, was in a sense creating the Sacred Grove of Puvis de Chavannes or Böcklin's Fields of the Blest (*Figs. 1, 2*). The island (which can still be seen), the romantic lake and the shimmering reflections of the white palaces symbolized something already familiar to Americans but never before translated into terms of a city . . . this was the triumph that Burnham's collaborators enjoyed and the dream they fulfilled. Their creation was perfectly of the time, and if they thought of themselves in terms of a Renaissance collaboration it was with a realization that modern civic planning is more than a matter for the individual to achieve. Would Sullivan or Wright, given the opportunity, have made this concession to the times?

The introduction of an acceptable civic style would in itself have been nothing, and, since architecture is subject to violent changes of taste, no lasting glory; the collaborators of the Fair have earned a more permanent reward for their penetration into the rough-and-tumble world of city planning. As has already been suggested, the term, "City Beautiful Movement," has obscured equally important contributions made by its protagonists in the period between the Fair and the first World War. Since this brief account cannot be a history of that movement it remains only to bring out certain innovations in planning theory and practice made by Burnham, his colleagues and contemporaries. The least of these is Burnham's stylistic conception of the city, although his remark, "the relationship of all the buildings is more important than anything else"[15] was a novel idea to thrust before the American speculator. The immediate inspiration for his civic work was French (*Figs. 3, 4*). Where else could the American architect turn for inspiration in those days? It must be remembered that the sociologists had not yet begun to examine the city as an organism[16], the land economist had not yet appeared, the housers were still trying to devise a "model" tenement that would appeal to builders, and the philanthropists such as Robert Treat Paine were advising people to shun the city and move to the "healthier suburbs." The Garden City movement which began its community-building activities in 1904, was on the whole anti-city in concept; the subtle ways of planning described in *Der Städtebau nach seinen künstlerischen Grundsätzen* had not been put into English. On the other hand, Paris was known to all, and especially praised was the recent work of Baron Haussmann, prodigious money-spender and skilled civic surgeon. Here was a forthright approach to appeal to Americans—large and bold enough to capture the minds of men who had invented the "tall building" and the "palace car."

No critics have been more severe with Haussmann than the French themselves[17], yet even they have been forced to admit that in seizing strategic points and opening up their approaches he taught us to "make no little plans." (*Fig. 5*) In making the most of the city site, the American

city beautiful planners moved a step forward. Edward H. Bennett's scheme for Telegraph Hill in San Francisco (*Fig. 6*) is an excellent example of this new point of view, as is Jacques Greber's avenue linking the City Hall and the Art Museum in Philadelphia, proposed and built much later. In a sense, these were the fulfillment, a century afterwards, of L'Enfant's recommendation to choose strategic points and prolong them "on far-distant points of view." Bennett's little-known scheme for Detroit, reviving in part the Woodward plan, is an imaginative projection of this idea. Many of the forgotten plans for cities made between 1900 and 1915 by Robinson, Nolen, Griffin and the younger Olmsted show a feeling for the advantages of the site and an understanding of the third dimension in civic art which is not nowadays always so evident.

Burnham and Bennett, co-authors of the Plan of Chicago (1909), far surpass Haussmann in their understanding of the city as a whole organism.[18] Indeed, a glance at the frontispiece (*Fig. 7*)[19] will show that they regarded Chicago as the center of a region and extended their planning far beyond its boundaries. That this most fascinating of Guerin's drawings was too fine in scale and soft in color to reproduce easily from the book perhaps accounts for the neglect of the City Beautiful's regional side. It was not until 1920 across the world in Great Britain and in Russia that the regional planning concept was revived in official schemes. Neither can we allow the modern planner to claim the distinction of observing the city as a polynucleated organism, subject to overall control. Although the term, "Master Plan," was not made part of official usage until Edward Bassett's book enshrined it in the planner's vocabulary, the early plans were much more than a series of "improvements" dotted here and there about the city. Chicago is perhaps the best example of the master plan approach, but other plans made before World War I produce similar evidence of the feeling for the part and the whole. . The accompanying illustration of the 1910 plan for New Haven (*Fig. 8*)[20] by Cass Gilbert and Frederick Law Olmsted, Jr. show residential areas separated by ring roads, the latter connecting the different parts of the city in a simple and easy solution; it was not until twenty-five years later that London and Moscow adopted the ring-road principle. This plan also shows an inner greenbelt or continuous recreational area, forming a protective buffer for the city's residential districts. Parts of this greenbelt were laid out shortly afterwards; then the idea was forgotten, to be revived after a lapse of thirty years in the New Haven Plan of 1942. The plan of 1910 is the Master Plan of a period which had not discovered how to make the plan a reality; but the work that was being done then prepared the public for an acceptance of city planning that is vitally necessary to the realization of our modern civic development.

In his recent book on the Potomac River, Frederick Gutheim suggests that the building of the Triangle area in Washington was a blow from which the City Beautiful movement never recovered.[21] It is probably true that this overpowering huddle of official architecture, so obviously lacking the benefit of planning, brought about an aversion to the whole concept of civic beautification; but it is equally true that the early city beautifiers would never have countenanced it. The area in which the Triangle buildings are massed was quite differently treated in the Commissioners' plan for Washington at the beginning of this century. By the time the area took its present form the giants were either dead or unheeded. In any case, this was the moment for the appearance of the City Beneficial, in the building of which the social scientists, the economists and the reformers are perhaps at last to have their opportunity. The realization that they were preceded by a movement guided largely by esthetic principles but not unaware of its responsibilities to society should be an added incentive in their task. It is easy enough to criticize the City Beautiful movement because it created so much that we now see around us; when the City Beneficial has arisen our *ex post facto* judgments may be equally severe. Perhaps neither should be judged entirely by its creations, which in the art of city-building are so often smirched by compromise, but at least partly on the intent of its originators, which must be unwoven from the fabric of the times.

YALE UNIVERSITY

1. *The Course of Empire*, New York, 1863.

2. In the first decade of this century occasionally called the Municipal Art movement, John M. Gaus, *The Education of Planners*, Cambridge, Massachusetts, 1943, p. 8.

3. "If the people of the Northwest actually knew what was good when they saw it, they would some day talk about Hunt and Richardson, La Farge and St. Gaudens, Burnham and McKim and Stanford White when their politicians and millionaires were otherwise forgotten." Henry Adams, *The Education of Henry Adams*, Modern Library edition, 1931, p. 341.

4. According to Burnham's biographer, his work on the San Francisco and Chicago plans was gratuitous. Charles Moore, *Daniel Burnham: Architect: Planner of Cities*, 1921, Vol. 2, p. 4.

5. "The damage wrought by the World's Fair will last for half a century from this date, if not longer. It has penetrated deep into the constitution of the American mind, effecting there lesions significant of dementia." Quoted in Hugh Morrison, *Louis Sullivan: Prophet of Modern Architecture*, New York, 1935, p. 184, and in abbreviated form in Sigfried

Giedion, *Space, Time and Architecture*, Cambridge, Massachusetts, 1941, p. 316.

6. "Was the American made to seem at home in it? Honestly, he had the air of enjoying it as though it were all his own; he felt it was good; he was proud of it; for the most part he acted as though he had passed his life in landscape gardening and architectural decoration." Adams, *op. cit.*, p. 340.

7. For a detailed account of the Exposition as a point of departure in American thought, Dr. Maurice F. Neufeld's unpublished thesis is invaluable. *The Contribution of the World's Columbian Exposition of 1893 to the Idea of a Planned Society in the United States.* A Study of Administrative, Financial, Esthetic, Social and Intellectual Planning. Department of History, University of Wisconsin, 1935.

8. Adams, *op. cit.*, p. 342.

9. *Ibid*, p. 343.

10. Gaus, *op. cit.*, p. 7.

11. Robert Averill Walker, *The Planning Function in Urban Government*, Chicago, 1941, p. 12.

12. *Ibid*, pp. 11-12.

13. "Look here, old fellow, do you realize that this is the greatest meeting of artists since the fifteenth century!" Moore, *op. cit.*, Vol. I, p. 87.

14. Oliver W. Larkin, *Art and Life in America*, New York, 1949. See chapter on The Renaissance Complex.

15. Moore, *op. cit.*, Vol. I, p. 206.

16. Patrick Geddes began to popularize this idea after 1910.

17. "La faute impardonnable, ce n'est pas d'avoir sacrifié tant de décors précieux, tant de pierres endolories, mais de l'avoir fait sans coeur." Marcel Raval, *Histoire de Paris*, Presses Universitaires de France, 1948, p. 104.

18. "I think it is more profitable and just to stress the fact that these men pioneered in creating a conception of the city as a total organism with needs inherent in its organic character over and above and beyond the interests and activities of the atomic individuals who lived or worked in the city." Gaus, *op. cit.*, p. 8.

19. Plan of Chicago, The Commercial Club, Chicago, 1909.

20. *Report of the New Haven Civic Improvement Commission to the New Haven Civic Improvement Committee*, New Haven, 1910.

21. Frederick Gutheim, *The Potomac*, Rivers of America Series, New York, 1949, p. 377.

NEWS AND NOTES

SECRETARY'S REPORT ON THE ANNUAL MEETING IN CHICAGO

The annual meeting of the Society of Architectural Historians was held on January 26, 27, 28, 1950, in Chicago concurrent with the College Art Association meeting. Louise Hall, retiring Secretary-Treasurer, conducted a registration desk in the Drake Hotel the first two mornings. More than a hundred people registered for one or more events sponsored by SAH.

The program centered on the Chicago School of Architecture. The first afternoon there was a bus tour organized by Carson Webster of Northwestern to see a small Unitarian Church by Paul Schweikher and Unity Temple and houses designed by Frank Lloyd Wright. There were two buses and about sixty people went.

On January 27, the annual luncheon and business meeting was held in the club room of the Chicago Art Institute with seventy-one present. Two motions were passed: one concerning the preservation of the Robie House, which precipitated discussion from the floor on the general problem of preservation; the other an amendment to the constitution that the editor of the JOURNAL shall be ex-officio a director of the Society.

At 2 o'clock the afternoon session began with six papers and a previously unannounced talk on little-known houses of the Chicago School by L. Morgan Yost, illustrated by colored slides. Incoming president Buford Pickens presided. Outgoing president Carroll Meeks presented a certificate of merit for the best publication in architectural history during 1949 to Harold Wethey of the University of Michigan for his book on *The Colonial Architecture and Sculpture of Peru*, Harvard University Press. About three hundred attended.

On January 28, the executive committee meeting was held at noon. In the afternoon there was a bus tour for twenty people to see the Mies van der Rohe buildings for Illinois Tech, his new apartments, the Robie House and others. On the same afternoon the Chicago Chapter of the American Institute of Architects sponsored a walking tour of the Loop, beginning at the Auditorium and ending at the Burnham Library where drawings by Chicago architects, especially Sullivan and Griffin, were on display. Chicago architects were present to greet the members.

NATIONAL TRUST ACT PASSES

On October 26, 1949, President Truman signed the bill creating the National Trust for Historic Preservation in the United States as a private, non-governmental holding body for sites, buildings, or objects significant in American history and culture. The National Council for Historic Sites and Buildings sponsored the National Trust and is responsible for the selection of its Trustees. The Society of Architectural Historians was one of the charter members of the National Council.

Headquarters for the National Trust and the National Council will be in the Octagon House at 18th Street and New York Avenue in Washington. Quarters in this famous mansion have been made available through the generosity of the American Institute of Architects. Among their joint aims are: "to arouse public opinion when loss or destruction of important historic sites and buildings is threatened; to collect, correlate, and disseminate information about preservation and its techniques;" and "to offer technical advice and assistance to and make cooperative agreements with agencies, organizations, or individuals dealing with preservation problems."

These functions will make the National Trust and National Council comparable to the Belgian Friends of the Royal Commission of Sites and Monuments, the Institute of France, the Swedish *Nordiska Museet*, the Scotch National Trust, and the English National Trust and the Society for Protection of Ancient Buildings.

NEW PROGRAM IN CITY PLANNING AT YALE

A new program in city planning, leading to the degree of Master of City Planning, has been established in Yale University's Department of Architecture.

The new program will begin next September and will require two years of study. It will be on a graduate level and will be open to a limited number of architects, landscape architects, civil engineers, and others who already hold a professional degree in a related field.

Professor George Howe, Chairman of the Yale Architecture department, in announcing the program said that "The increasingly urbanized character of our society demands the exploration of new

avenues of approach to the problem of shaping our communities in accordance with the values and aspirations of modern life.

"We hope to produce the type of planner who is well-grounded in the sciences, in administration, and in civic design." Christopher Tunnard, Associate Professor of City Planning, will be Director of Planning Studies in the program. He has headed the section on city planning in the Department of Architecture for the past five years.

VISUAL AIDS AND PHOTOGRAPHS

A catalogue of visual aids for the study of the civilization, history, art, archaeology and literature of Egypt, the Bible Lands, Mesopotamia, Greece, Rome and Pre-Colonial America has been compiled by the Archaeological Institute of America. The price is 50c. It is available from the American Classical League, Miami University, Oxford, Ohio.

Notice of photographs for sale from T-L. H. Muller, 72 bis Rue Michel-Ange, Paris 16e has been passed on to us by the A. I. A. Photographs are catalogued and sold by the series at 40c a print. Listed as available are pictures of Baroque Art, Cuxa, and the cathedral and cloister of Elne.

EDITOR'S CORRECTION

Hans Blumenfeld, author of *Theory of City Form, Past and Present*, in the July-December 1949 issue, is Chief, Division of Planning Analysis, Philadelphia City Planning Commission, rather than with the Philadelphia Housing Association as stated in the notes on contributors to that issue.

JEFFERSON AND SULLIVAN MATERIALS

The Jefferson Papers of the University of Virginia, a calendar compiled by Constance E. Thurlow and Francis L. Berkeley, Jr., with an appended essay by Helen D. Bullock on the Papers of Thomas Jefferson has been received. It was published on February 20, 1950, as Number Eight in the University of Virginia Bibliographies by the University Library in an edition of 750 copies, at $5.00, 357 pp. Conspicuous among the University's Jefferson papers are the many sheets of floor plans, elevations, renderings, and structural details for the buildings and serpentine-walled gardens, drawn up by the founder for his "academical village." A manuscript volume entitled "Operations at and for the College" (item number 1518 in the *Calendar*) contains detailed specifications. Also indexed in the drawings are numerous designs for other public buildings and private homes of neighbors and of friends elsewhere, including a preliminary design for the White House (or the Governor's Mansion?) and plans for the Nelson County jail.

The Louisville Free Public Library has ready its micro-card publication of Louis Sullivan's essay, *Democracy: A Man Search*. This is taken from a hitherto unpublished manuscript in the Burnham Library of the Art Institute of Chicago. Hugh Morrison has prepared a brief introduction for it and Walter Creese the foreword. As Mr. Morrison has written in his fundamental work on Sullivan (*Louis Sullivan: Prophet of Modern Architecture*, the Museum of Modern Art and W. W. Norton & Company, Inc., N. Y., 1935), "The manuscript was the longest he [Sullivan] ever wrote. Although unpublished, it was in some ways the most remarkable of his books. Broader in scope than the 'Chats,' and displaying a far wider knowledge of previous philosophic writings and of the panorama of human history, it was at the same time more restrained in phrase but equally intense in poetic feeling." This is the first issuance of an unpublished manuscript on micro-cards and is intended as a nonprofit venture to stimulate further appraisal of Sullivan's writings and architecture. There are 310 pages on six 3 x 5 inch micro-cards at $7.50. Inquiries should be addressed to Dr. O. F. Hall, Micro-Card Department, Louisville Free Public Library, Louisville, Kentucky.

THE JOURNAL OF THE SOCIETY OF ARCHITECTURAL HISTORIANS MAY 1950

With this issue, the Journal changes editors, from Alan K. Laing and Edwin Rae of Illinois to Walter Creese of Louisville. Even the brief experience of getting out this month's publication has convinced the new editor of the deep obligation of the Society to Professors Laing and Rae for their many man-hours of work.

Preliminary investigation seems to show that the field is extremely active and that there is no dearth of material to publish. More articles will always be welcome, but to print them adequately will require an increased budget. No large amount is needed, but enough so that adequate photographs, the most expensive item, can be supplied to justify our inclusion of outstanding research. To make the magazine a true quarterly with additional features of book reviews, preservation notes, and news and letters is the ultimate goal.

Individual members can help the most to achieve this. The little tasks, so often put aside, will greatly assist us. For instance, a shuffle through that pile of papers on your desk might reveal an unpaid membership to the Society. If this proves you among the prompt and virtuous, then perhaps you can think of a friend or an institution that might be interested in our aims and purposes. A general increase in membership would not only decrease the per-unit cost to a reasonable figure, but also lessen the pressure for subsidization, a boon to the subsidizors and the officers of the Society, who at present must spend a good deal of their time and energy on this activity. Unused back numbers sent to the editor collect are a great financial asset also, because we have orders for many issues exhausted from our own supply. Finally, to serve the membership adequately, the staff must maintain a high degree of awareness of all kinds of projects going on in our special areas of scholarship. Just a note on a scrap of paper or a postcard may solve any number of problems for the magazine, providing it is addressed to the Editor and dropped in a mail-box.

JOURNAL

OF

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OCTOBER, 1950

EDITOR—WALTER L. CREESE, UNIVERSITY OF LOUISVILLE

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CHARLES E. PETERSON, NATIONAL PARK SERVICE

EDITOR BOOK REVIEWS—JOHN McANDREW, WELLESLEY COLLEGE

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Theodore Sizer

23. American Notes
Charles E. Peterson

29. S. A. H. News

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Members are entitled to receive the JOURNAL. *Address all membership inquiries to* Mrs. John M. Gilchrist, *286 East Sidney Avenue, Mount Vernon, New York*

The long summer months have given the staff an opportunity to recast certain aspects of the JOURNAL. We have summoned courage for this through the conviction that the spirit which imbued the whole Society at its founding ten years ago is still very much alive. To us this spirit consists mainly of a brash optimism which believes that the proper time for reining in the aspirations of the JOURNAL has not yet arrived.

Hard work by the officers of the Society has increased financial support to where we now feel ready to supply at least a minimum quarterly in October, December, March and May. Four new sustaining institutions,the Universities of California and Southern California, the Museum of Modern Art and the University of Pennsylvania, have come in this time, and we have hopes of others soon. The most noticeable feature in this first single issue will undoubtedly be the format. It all began with the search for an empathically comfortable spot on the cover for the large seal of the Society. Edward L. Mills of the Museum of Modern Art responded to our request for aid with this by not only redesigning the cover but also donating a complete new layout. Although immediate conditions have precluded the adoption of his excellent suggestions in some minor respects, and he has not been able because of problems of distance to supervise it personally through the press, we are greatly in his debt for the contemporary appearance he has brought to our pages.

Vice-President Charles Peterson has added to his already substantial contributions to the activities of the organization by beginning a section on American notes and preservation. The need for a better grasp of the concrete problems of preservation which is bound to arise in the wake of an increased awareness of the American architectural tradition, signalized most recently by the enactment of the National Trust Act, leads us to believe that this material is particularly pertinent to the pursuit of our original four aims. In December we plan to initiate a regular book review department under Professor John McAndrew of Wellesley College. His scholarly work in several fields, as well as his wide professional experience, makes us feel particularly fortunate in having him assume this position, which, as everyone recognizes, is probably the most arduous and useful task that an individual can perform for a learned periodical.

The inclusion of Jerry Donovan's brief article on Colonel John Jordan in this issue reflects a conscious intent of the editors to recognize the promise of students and the encouragement of teachers. A society which does not remain open to youth cannot long retain its resilience, we think. Perhaps it is a healthy sign for the future cultural importance of architectural history, too, that both younger contributors this time found their way to the JOURNAL through the study of American Civilization. In line with this policy also is the institution by the officers of a new category of membership for students at $3.00. We hope that those professors who have faith enough in their classroom exhortations to believe that they have left a permanent impression will take special note of these two opportunities. Even though because of space limitations the number of student papers published in any one year can never be large, we shall do our best to fit in those of high quality.

Having advanced from the cover to the back of the magazine in our recording of changes and additions, a word might now be said about advertising. The College Art Association and the American Institute of Architects have kindly volunteered to run information about the Society and its purposes in their own publications this fall. Plans for an exchange ad with the *College Art Journal*, inquiries from several university presses bringing out architectural titles, and our continued determination to keep membership charges as nominal as possible have led to the decision to accept advertising from reputable firms. Support from this direction is likely to be so intermittent that we believe we can promise there will be no yielding to the blandishments of commerce. The only area in which we care for the high polish of professionalism is in the serious quality of our articles and in their accurate reproduction. And this, in the final analysis, must still depend on amateurs—member-authors and member-editors. Half of the confusion, most of the fun, and the entire strength of the magazine will have to come, as always before, from our individual participation.

THE EDITOR

Courtesy of the John G. Johnson Art Collection, Philadelphia

Clear glass, prominent pulpit, empty nave and chancel marked the first "Reformed" interiors . . . St. Bavo Church in Haarlem, painted by Pieter Jansz Saenredam (1597-1665).

ANTHONY GARVAN *is a research and teaching Fellow in American Civilization at the University of Pennsylvania. This article rises out of a larger study which won him the Eggleston Prize in American History at Yale University in 1948. His elucidation of Continental and English Protestant church designs before 1630 appreciably lengthens the historical perspective on the Colonial meeting houses of America.*

THE PROTESTANT PLAIN STYLE BEFORE 1630

The Puritan town of New England was as much a part of the European struggle between Catholic and Protestant as the monastic towns of New Spain. Though very different, each was an outpost in a world-wide conflict of ideology. In both, religious architecture made concrete the mighty theological chasms that lay between Englishman and Spaniard. The Puritan shared in the development of a new style of religious architecture which in Europe provided definite bounds to the swirling universes of Baroque Catholicism.[1]

Though it was once well known, nineteenth century criticism and research have conspired to defame and obscure the Protestant "Plain Style" of building. Indeed its principal critic attacked the style so effectively that we can date its terminal point by the publication in 1836 of *Contrasts . . . Showing the Present Decay of Taste.* Pugin's theme was direct and simply learned; he described post-Reformation Protestant architecture as pagan and offered his readers the appeal of a Catholic, Christian art. By his definition the Reformation remodeling of the medieval church buildings became equivalent to vandalism. The conclusion was obvious; restore the churches of England to their original glory; rip out pulpits, ceilings, box pews and galleries, reopen chancels, install Gothic bench ends and erect high altars, and a medieval phoenix would emerge from the ashes of Cromwell's destruction and Wren's designs.[2]

In general the movement succeeded. Few Reformation interiors escaped a "restoration" which turned the clock back to the Christian satisfaction of the critics. Such sixteenth and early seventeenth century interiors as did remain unscathed were then largely forgotten. Monographs treating of church building had a national bias. Detailed studies of English cathedrals, Dutch churches and American meeting houses failed to note the significance of the few unaltered Reformation churches remaining in each country. Each was given minor notice and not correlated with similar work in other Protestant countries. Until recently, independent or non-conformist architecture in England was seldom annotated and often omitted from consideration by the Royal Historical Monuments Commission.[3] Americans felt the Puritan meeting house was a product of frontier necessity, town organization, and utility almost unique to New England.[4] In France the revocation of the Edict of Nantes and consequent destruction of Huguenot temples made French Protestant architecture the peculiar property of religious historians.[5] In each country, though the cause was different, the result was the same; for almost a century early Reformation ecclesiastical architecture has been ignored or slighted. Nationalism and romanticism found little of merit in an international, classical and rational style.

If 1836 marked the terminal point of a long, slow decline of Protestant Plain Style building, its beginning in each nation was the rise to civil power of a Protestant Party. German sixteenth century Lutheranism, the establishment of a separate English Church under Henry VIII, the Declaration of the Edict of Nantes, the rise of a Dutch state, each an isolated event, forced Protestants everywhere to reconsider the architecture of their places of worship, and nowhere in Protestant Europe were the Catholic churches standing in the sixteenth century left unchanged.

In Holland, Protestant church architecture had developed a surprisingly advanced style in the early seventeenth century. By 1630 Dutch architects had tried almost every major experiment to which English and American builders of the late seventeenth and eighteenth century finally turned. Eminently successful in the alteration of existing fabrics, the Dutch did not destroy the larger Gothic churches, but adapted them to Protestant worship. The churches were stripped of all sculptural ornament but the simplest moldings; clear glass was substituted for stained windows, the high

painted by Pieter Jansz Saenredam (1597-1665).

altar was removed and the chancel filled with seats (Fig. 1). Either at the center of the nave or in the chancel a high pulpit alone attracted notice. In some cases the eastern end of the apse was filled by a vast organ. The result is altogether satisfying, a clear well-lit sense of space broken only by the strong vertical lines of the Gothic structure. In such "purified" churches Protestant congregations heard simplified services which centered not upon the ritual of Communion but upon the minister's reading and interpretation of the Bible from his new pulpit in the nave (Fig. 2).[6]

Remodeled churches, however fine, could not alone completely satisfy the physical needs and sensitive nationalism of the growing Netherlands, and when faced with the problems of the Protestant liturgy the sixteenth century Dutchman designed with remarkable freedom and variety. The oldest of these entirely new churches, the brick octagon church at Willemstad, exhibits a mature concept of Protestant needs. A perfect octagon twenty meters in diameter, the church was made the center of a fortified town protected by eight bastions. Each of the eight walls was broken by a tall, nearly pointed window and at each intersection of the walls curiously mature Doric columns masked the interior piers. A bell-like roof and cupola sat like a giant snuffer on the church walls. Before the 1940 invasion of the Netherlands, the fabric of the building remained almost untouched except for a very large western tower which destroyed the original symmetry of its design. Within the church the pulpit was attached to the northeast wall and the existing pews arranged in two rows of varying length across the whole body of the church.[7]

Apart from the octagon, Dutch designers used two other basic plans in their search for the ideal Protestant place of worship. Both employed part of the Catholic liturgical tradition but simplified and remodeled the interior so as to produce an entirely new effect. Though little known in France or Belgium, the transept churches were widely built in northern Europe. These church plans in Holland embodied a short square cross with broad intersecting arms of equal length. Near the center of the crossing the pulpit was placed. Thus persons in every part of the building were within hearing of the preacher's voice. The transept plan was popular for more than a century, and before World War II its continuous evolution through a variety of architectural styles could be traced from early details of the Nooderkerk in Amsterdam (1620-1623) to the chaste facade and fine interior of the Western Church (1740-1741) in the same city (Figs. 3-4).[8]

However, not all European Protestant architects designed octagons and central-churches. Many contented themselves with a simple rectangular plan.[9] Easiest to conceive, the non-liturgical rectangle simultaneously became the favorite plan for Protestant churches throughout Europe and America. In France, England and Holland, men working quite independently of one another seem to have settled upon the rectangle as the most practical, if not the most original, design for Protestant worship. In France the world-famous Temple of Charenton introduced the use of galleries to enable the large Protestant congregation to hear such pastors as the Parisian Pierre Dumoulin, favorite of Catherine of Bourbon.[10] Built near the site of a small Protestant temple which had been fired by rioting Catholics in September of 1621, this second temple was designed by Salomon de Brosse and completed with royal permission in 1623.[11] From the time of its dedication the Temple of Charenton became a symbol of Protestantism, persecuted but militant. Though destroyed together with other Huguenot churches shortly after the Revocation of the Edict of Nantes in 1685,[12] the building was widely imitated in both England and Holland and even today French Protestants regard it as the finest expression of their religious architecture (Fig. 5).[13] Abroad it was copied closely. A Dutch engraving of 1630 shows workmen completing the Remonstrance Church in Amsterdam. In almost every detail the Dutch architect followed the plans of De Brosse. In each church two tiers of galleries were carried around all four walls. In each the pulpit stood clear of one end wall so that the preacher was almost at the level of the first gallery and surrounded by his parish. Men and women sat apart and special seats were reserved for the elders.[14]

All commentaries on Charenton point out its evident debt to Jacques Perret who, in his fascinating book of imaginative studies of fortress architecture, interspersed plans of such widely separated projects as a skyscraper and a Protestant church. Published in 1594, 1602, 1613 and 1620, *Des Fortifications et Artifices* could not fail to influence architects groping for a concrete expression of the Protestant ethic. Describing his own interior design Perret wrote, "au dedans tout à l'environ soint trois bancs l'un sur l'autre touchant la muraille en manière de théâtre. Puis les chaires pour les seigneurs et an après les bancs pour les femmes, ayant tousiours belles alles autre deux" (Fig. 6).[15]

The exterior of Charenton did not suggest the theatre, nor was it intended to awe or overwhelm. The tenuous political privilege which made the church possible was too uncertain to permit much ostentation. Situated near the slope of a low hill, the building had no true facade. On both the west and north sides a central door gave access to the services within. Three rows of windows surmounted by a hipped roof and an atrophied

bell tower reflected the simple internal arrangements and gave ample light to the interior. Though Doric columns supported the interior galleries, externally they were not used even for the main door in the fashion suggested by Perret. Its size still impresses, exceeding that of most Protestant churches. It was roughly 102 feet in length and 60 feet wide, with the four sides of the steep roof meeting in a ridge some 60 feet high. Even if unfilled, a Protestant temple of this size must have caused no little misgiving when each Sunday as many as 4000 Huguenots from neighboring Paris entered the plain north and west doors and, seating themselves without uncovering, sternly waited for divine service to begin (FIG. 5).[16]

The religious "unity" so applauded by Bossuet, La Fontaine, La Bruyère and Madame de Sévigné after the Revocation in 1685, destroyed almost every vestige of humble Protestant architecture in France.[17] Across the Rhine in Germany the disunity of political administration permitted Protestantism to flourish, and there as in Holland many traces of the Protestant esthetic still remain. Evangelical architecture in general employed a rectangular plan with galleries and often retained the chancel. As elsewhere the box pew, low roof, elaborate pulpit and fine organ were characteristic of most plans. In this they preserved much of the atmosphere of such sixteenth century palace chapels as that of Augustusburg or Stuttgart, and at the same time developed a plan which was equally suitable for either the Stadtkirche at Bücheburg (1615) or the village congregation of Nidda (1615-1618).[18]

Upon occasion German design was freer, and probably nowhere more successfully so than in the Freudenstadt church. Built between 1601 and 1608 by Heinrich Schickhardt, the building was laid out in an L-shape, at the center of which the pulpit was located on the ground level and the organ on the gallery level. A fine bell tower stood at the end of each arm and a cloister ran along the inside wall of the L. Within the church the gallery almost touched the finely decorated ceiling and preserved the sense of confined space which the L plan gave to the church despite its length of almost 250 feet if extended.[19]

This same sense of limited space English Protestants thought proper for their church architecture. The extent to which they applied this new concept was governed largely by political considerations. From Henry VIII's first suppression of the monasteries in 1535 to the restoration of the Stuarts in 1660, Englishmen of all shades of religious feeling hoped that they might control the civil government and the extensive properties of the Church of England. Indeed, each party from Marian Catholics to the Puritan Cromwellians did, for a longer or shorter period, determine the official faith of England and each, during its incumbency, remodeled the fabric of its church buildings to suit its own needs.

The best example of this vacillating policy of reconstruction was the old Saint Paul's Cathedral, the seat of the Bishop of London. Cleared of stained glass and statuary during the sixteenth century, the medieval fabric stood at the beginning of the Stuart period structurally unchanged. Under Charles I, Inigo Jones contrived to mask the southern and western faces of the nave with a screen of regular ashlar and classical details. Across the main facade a porch of ten giant Corinthian columns supported an entablature lauding "Charles by the grace of God King of Great Britain and France," whose somewhat bowlegged statue stood on the balustrade above the entrance. Elsewhere round arches were substituted for pointed, classical doorways for Gothic, vertical pilasters for flying buttresses, and Dutch strapwork and classical pyramids for Gothic tracery and pinnacles (FIG. 7). Designed as a screen, the effect of all this classical ornament was properly impressive from the ground. However, it cowered meanly below the soaring transept tower, and the wall with classic balustrade could barely encircle the waist of the medieval chapter house. Hollar's masterful and bitter engravings make the classical work seem another of Inigo Jones' unreal stage sets which succeed only in advertising that thin vertical walls of masonry and glass could no longer suit Protestant worshippers' taste and inclination.[20]

The Puritan reaction to such sham is easily imagined. No sooner had the Long Parliament convened than all monies were withdrawn. The scaffolds for the new tower were pulled down, workmen tore out the stalls in the choir, ripped up the pavement, even used graves as sawpits, if William Dugdale is to be believed. The nave was taken over by cavalry troops. The choir was bricked off, and in 1649 "a Dr. Burgess gave a lecture and weekly sermons unto which divers citizens with some others do usually resort." After it had been largely destroyed in the Great Fire, it remained only for Sir Christopher Wren to condemn any effort at repair and to insist on the construction of a new cathedral for London. Had his advice been followed, a church more closely attuned to the "zentral-bau" churches of Continental Protestantism would have replaced, after more than a century of turmoil, the medieval Cathedral of St. Paul.[21]

Everywhere in England Protestants felt dissatisfied with the architecture of their places of worship, but in general they contented themselves, until after 1660, with altered interiors among which St. Catherine Cree is outstanding (FIG. 8). Externally, the smaller churches were little changed except in the environs of London.

FIG. 1
The Protestant Reformer in the guise of an angry Christ clearing his temple of bishops, cupids, and learned doctors and replacing screens, stained glass, elaborate altars and stone sculpture with the tablets of the Ten Commandments.
from H. Hondius, *Architectura*, 1606.

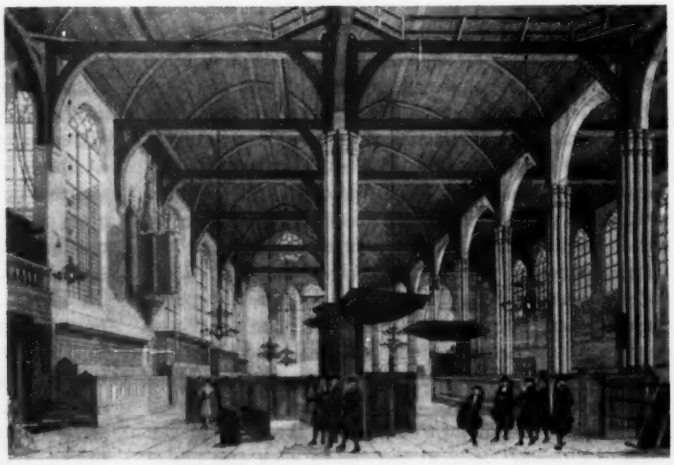

FIG. 2
Protestant furniture in a Gothic nave. Interior of the Nieuwe Zyds-kapel in 1783.
from *Nieuwe Atlas*, 1783.

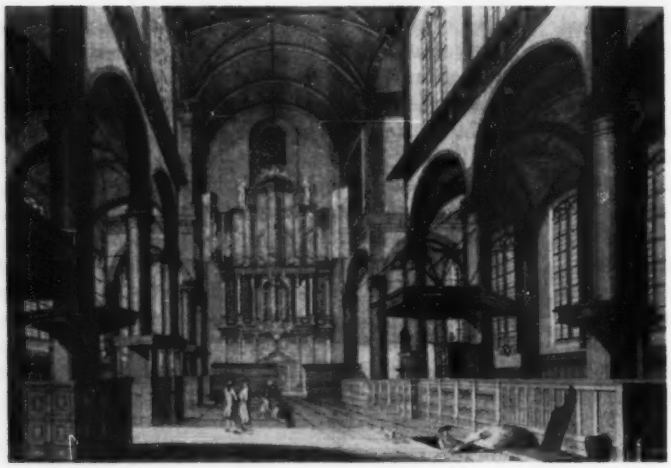

FIG. 3
Protestant space concepts at their best. Interior of the Westerkerk.
from D. J. Chanquion, P. van Hengst, *Nieuwe Atlas . . . der Stad Amsterdam*, Amsterdam, 1783, II.

FIG. 4
The verticality of the Westerkerk and tower was broken by many horizontal elements to preserve the sense of divided and limited space.
from N. T. Hoorn, *Wegwyzer door Amsterdam* 1713.

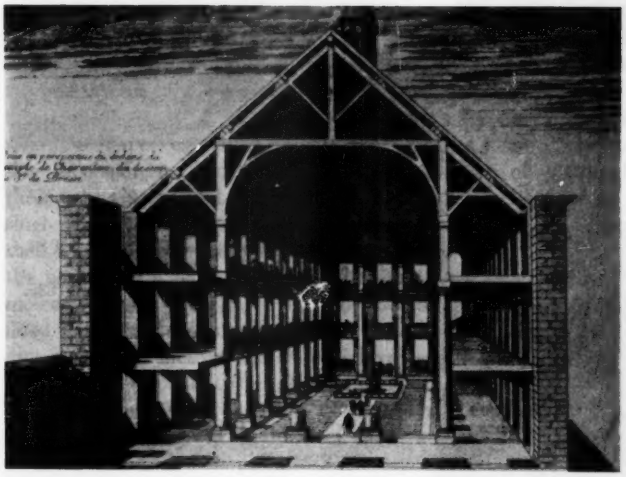

FIG. 5
Salomon de Brosse's celebrated design for the second Temple of Charenton built in 1623-24 anticipated most later Protestant work in its arrangement of galleries, pulpit, etc.
from J. Pannier, *Salomon de Brosse*, Paris, 1911.

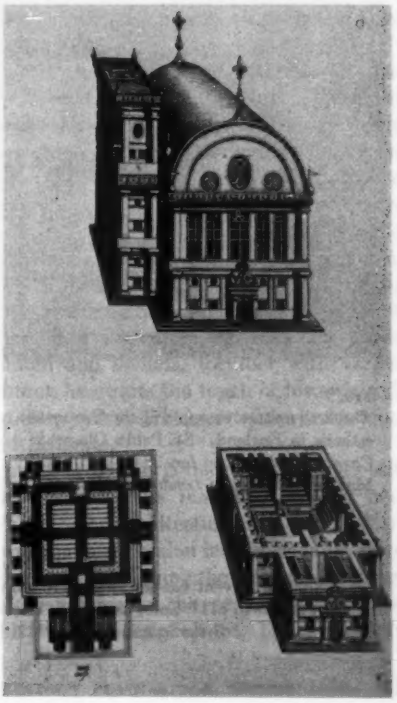

FIG. 6
Though never executed, Jacques Perret's early Protestant temple plan provided tiers, galleries, and a prominent bell tower and pulpit.
from J. Perret, *Architectura et Perspectiva*, Frankfurt, 1602.

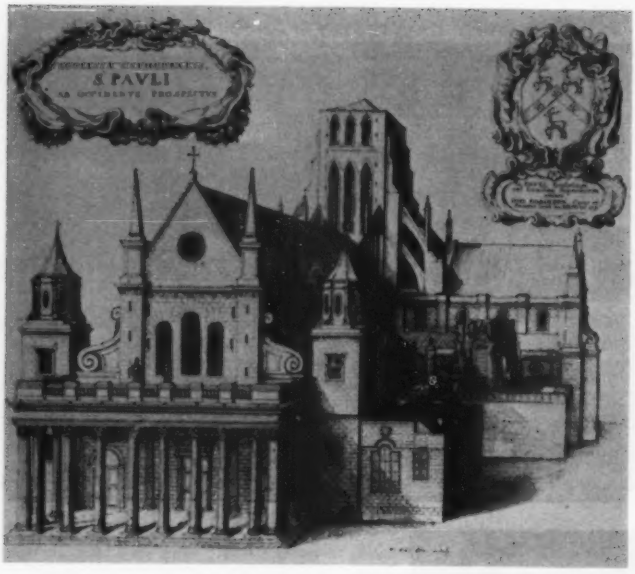

FIG. 7
Inigo Jones' elaborate classical facade and screening wall for the old St. Paul's.
from W. Dugdale, *History of St. Paul's Cathedral in London*, London, 1658.

FIG. 8
Inigo Jones' early work, like his Dutch contemporaries', mixed Catholic and Protestant elements for the remodeled St. Catherine Cree.
from G. Godwin, *Churches of London*, 1835.

FIG. 9
The first mature example of the Protestant esthetic in England. St. Paul's Chapel in Covent Garden. East facade in 1775. W. Maitland, *History of London*, London, 1775, III.

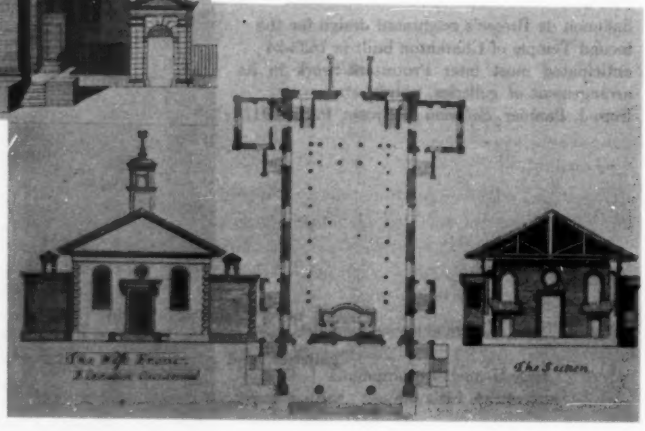

FIG. 10
St. Paul's in Covent Garden. Plan, section and west facade in 1717. Colin Campbell, *Vitruvius Britanicus*, London, 1717, III.

There the alterations had extraordinary results. Maitland has left us prospects of many such churches, but perhaps St. John's at Wapping and St. Paul's at Shadwick best illustrate the complete lack of consistency or relationship with the original structure which was characteristic of these early efforts to create a new church form.[22] Ill-proportioned dormer windows were let into the roofs of tiny churches; Gothic tracery and towers disappeared under a cover of round arches and classic entablatures. Wherever possible, eager workmen added ornamental spheres and pyramids, bell towers and flagstaffs, dials and clocks, and yet through all this sham or ornament the simple plan of the English parish church of tower, nave and chancel still appeared.

Within, the problem of the chancel plagued the seventeenth century English Protestant. About its humble walls theologians waged bitter controversy over the place of Communion in Church of England liturgy, how it should be given and received, and the extent to which it could be regarded as a sacrament. During the reign of Edward VI, stone altars were occasionally replaced by wooden tables.[23] Though this was not universally done, the wooden Communion table in general had superseded stone altars by the middle of the seventeenth century. Supported on massive Jacobean legs and heavily carved, the earliest of these tables seem a fit substitute for stone altars. No single custom was followed, however, as to manner of their use at Communion. Sometimes they stood against the east wall of the church as Archbishop Laud directed; sometimes the three walls of the chancel were lined with benches surrounding the table, which ran east and west, so that the chancel became a kind of Lord's dining room. Often the sextons had to carry the heavy table into the nave of the church, where Communion was given to the elect either at the table or even seated in their pews.[24] Such must have been the case at Bradwell-near-Coggeshall in Essex where a screen divided the chancel from the body of the church and a fine Jacobean tomb of the local squire and his family replaced the altar.[25]

Nor was the Lord's Table the only new piece of church furniture the Protestants introduced into the nave of the English church. In the seventeenth century a growing population and the elaborate accommodations provided for a few elect families raised many seating problems in small country churches. Some solved their dilemma with galleries, first at the west end, then the north and south, and occasionally across the east end of the nave.[26] Made from bench ends, the rood lofts, which had been forbidden as idolatrous, (or originally designed and carved as galleries, as at Pyddleton Dorset, 1635) are themselves often very handsome, but their strong horizontal lines seem cramped and crowded by the low vaults of the average parish church.[27]

The liturgical emphasis laid upon the spoken word by all reforming Protestants further affected church furniture. It is no coincidence that the earliest of the fine wood pulpits were handsomely carved with Jacobean ornaments. Such examples as Ashfield Magna (1619) or the triple-decker at Dennington (1628) with its place for reader, clerk and preacher, were raised high to overlook the steep sides of box pews that pressed them closely on every side. Their very richness, suggesting the court cupboards of the period, laid a duty upon the minister they served, as the 1635 joiner at Yaxley well knew when he carved on the steep sides and elaborate fretwork of his pulpit, "Necisite is laid upon me yea woe is me if I preach not the gospel."[28]

Eventually the formerly open nave of the parish church, with its few stone benches for the old and infirm and rude backless benches for the congregation, was completely changed by the reformers. Everywhere the box pew was introduced, with high side walls and little doors securing its privacy. Families of prominence took the liberty of constructing high elaborate cubicles to protect themselves from malicious stares or draughty humors. The floor of the church and the base of its piers disappeared beneath a maze of boxes; its vaults were often hidden from view by a ceiling of horizontal timbers that kept the church warmer and at the same time suited the new furniture better than a pointed vault.

Even the dead rested under new stones. The engraved Tudor knight had stared stonily upward at the dim twilight of the roof timbers; not so his Jacobean or Stuart descendants. As in life, he limited his universe with architectural canopies and pyramids borrowed from Flanders. His own sculptured image was more realistic. No longer incised, he was carved in the round lying fully clad beside his spouse; his head resting comfortably upon a pillow; his well-made armor sheathing his limbs of stone; with folded hands he dozed through the long afternoon. Surrounding him were sculptured stallions, children and hounds, together with verses. In his own church he awaits the touch of his own god, a god inscrutable, perhaps, but certainly prosperous, successful and intimate.[29]

Only one building of the period 1600 to 1640 still remains which suggests the full effect of the new Protestant liturgy upon architecture. In 1640 the Earl of Bedford, a prosperous London land speculator, gave Inigo Jones the task of designing the residential square, Covent Garden. Ironically, the only structure that remains of his original design is St. Paul's Church,

completed in 1640 as a chapel of ease for the Earl's tenants. Although Thomas Hardwick repaired the church in 1788 and rebuilt it after it burnt in 1795, he is believed to have followed the designs of Inigo Jones with care. A comparison of Maitland's view engraved in 1775 with Nightingale's illustration for London and Middlesex in 1815, shows that this is true and that the main facade was "a plain but noble portico of the Tuscan order; the columns . . . massy and intercolumniation large." The broad gently sloping eaves of the roof were carried far out over the walls of the church, not only on the long sides but also over both the northeast and southwest walls where the roof made a crude pediment over the entrances to the church.[30]

The congregation might enter the church through identical high doors either under the portico facing the piazza or at the west end and then pass to their pews which pressed closely around the pulpit. Along the two long walls were shallow galleries with three banks of seats. Since these galleries partially interrupted the flood of light from the tall windows that ringed the church, they are possibly a later addition (FIGS. 9-10). The windows themselves, which are indicated in every view of the church, are over twelve feet high and filled by panes of clear glass, flooding the interior of the little church with a clear light. Box pews and a flat ceiling served to further enhance the lucid light of the Sabbath sermon. Space was closed, well-lit and rectangularly defined. Neither the limit of God nor His house was hidden from the reasoned mind of the Covent Garden congregation. In all its elements—plan, use of the classic portico (though the choice of the Tuscan was peculiar to Jones), light within the church, galleries, box pews and fenestration—the little church of St. Paul in Covent Garden anticipated the work of Sir Christopher Wren and James Gibbs, and their American imitators. Not so skillful as Wren in his use of space, Inigo Jones completed in 1638 an insufficiently acknowledged monument of Protestant architecture, the only building to fully interpret the Plain Style in England before the Great Fire of London.[31]

There is little question that the Protestant Plain Style was closely imitated in many Jewish synagogues in Holland and England at the end of the seventeenth century. The Sephardic Synagogue in Amsterdam and the London Great Synagogue closely followed Protestant models.[32] The larger question, still unanswered, is the extent of Protestant knowledge at the beginning of the seventeenth century of Jewish worship, liturgy and architecture. Certainly Calvinist emphasis on the Old Testament created curiosity as to the nature of Solomon's Temple and early Christian worship.[33] The display of the Ten Commandments, the development of the pulpit and even much of the new Protestant art of gravestone design all argue Jewish influence. Whether the use of an anti-liturgical floor plan and zentralbau churches can also be attributed to Jewish influence, I am not certain. The strong direction which Wren's London churches gave to Jewish synagogues at the end of the seventeenth century suggests that the western European synagogue followed the Protestant counter-Baroque esthetic, rather than the reverse. However, the lack of detailed information on places of worship of both faiths during the late sixteenth century precludes any definitive statement.[34]

When, in 1630, the Great Migration to New England began, its ships carried not only Puritan settlers and Puritan theology but also a full-fledged Protestant esthetic. The meeting houses of New England were not haphazard or accidental responses to the demands of the American forest. The non-liturgical floor plan, the box pew, the movable communion table, galleries, the two-story facade, the low ceiling, the elaborate pulpit, all were known to Protestant builders who, by 1630, had striven for almost a century to create a Plain Style of church architecture. Carried not only to New England but to other American colonies, this esthetic produced, due to the individuality of the colonies and their poor cultural intercommunication, a variety of church buildings; but none of these churches, either in New England, the cosmopolitan Middle Colonies, or the plantation South, failed to follow the fundamental principles of the European Plain Style. In each, space was closely defined, linear and well-lighted; ornamentation was constrained and abstract; and construction direct, simple, and apparent. Here was a lucid shelter within which the rational, literate Protestant might reach his god.

UNIVERSITY OF PENNSYLVANIA

1. Of course Protestant congregations occasionally built Baroque churches. The work of George Bähr, notably the Frauenkirche (1712) in Dresden, is such an exception. H. Gunkel, O. Scheel, *Die Religion in Geschichte und Gegenwart*, 1912, III, p. 1230. A. L. Drumond, *The Church Architecture of Protestantism*, Edinburgh, 1934, pp. 31-32. Likewise Pugin and Rowlandson sketched the Roman Catholic Chapel at Lincoln's Inn Fields with the usual Protestant gallery plan adapted to a large Baroque altar. A. Pugin, T. Rowlandson, *Microcosm of London*, second edition, London 1904, I, pp. 114-118. See also A. Rottman, *London Catholic Churches*, London, 1926, pp. 39, 126, 138, and especially p. 224.

2. Pugin issued a manual to guide the unwary in 1843. (*The Present State of Ecclesiastical Architecture in England*, London) see especially p. 50 ff.

3. The bibliography of Non-Conformist English architecture is thus far very brief: R. P. Jones, *Non-Conformist Church Architecture*, London, 1914; M. S. Briggs, *Puritan Architecture*, London, 1946; J. Betjmann, "Non-Conformist Architecture," *Architectural*

Review, LXXXVIII, 529, Dec. 1940, are outstanding in a small field. See also A. L. Drummond, *Church Architecture of Protestantism*, Edinburgh, 1934.

4. John F. Kelly, *Early Connecticut Meetinghouses*, New York, 1948, I, xxii, xxx.

5. Société de L'Histoire de Protestatisme, *Bulletin*, especially V, pp. 178, ff; XXXIV, XXXIX. Hereafter *B.H.P.*; J. Pannier, *L'Église Réformée de Paris sous Henri IV*, Paris 1911, has much valuable architectural material.

6. This change can be traced through the interiors of Amsterdam churches in 1783: the Oude Kerk remodelled after 1578, the Westerkerk 1620-31, and the Nieuwe Kerk remodelled in 1645. D. M. Chanquion, P. den Hengst, *Nieuwe Atlas . . . der Stad Amsterdam*, Amsterdam, 1783, II, pl. 40, 45, 50.

7. M. D. Ozinga, *De Protestantsche Kerkenbouw in Nederland*, pp. 12-19, pl. 1-3.

8. Amsterdam, Noorderkerk, 1620-23; Renswoude, 1639-41, Groningen Nieuwekerk, 1660-65, Westzaan, 1740-41, *Ibid.* p. 178 ff. The angular cross plan developed also into the "Zentralbau" church, a circular church surmounted by a dome, in Italy during the sixteenth century, later in Holland and Germany. H. Gunkel, O. Scheel, *Die Religion in Geschichte und Gegenwart*, Lubingen 1912, III, pp. 1227-1230.

9. Perhaps the most famous of Dutch rectangular churches are the Zuiderkerk, 1603-11, and the Westerkerk, 1620-31, both in Amsterdam. Each has a gallery and two projecting bays. Their plan is that of an aisled church without apse or chancel of any kind. F. A. J. Vermeulen, *Handboek tot de Geschiedenis der Nederlandsche Bouwkunst*, S. Gravenhage, 1931, p. 283. M. Ozinga, *De Protestantsche Kerkenbow in Nederland*, Amsterdam, 1929, p. 29.

10. Pierre Dumoulin, born in 1568, was pastor of the Temple of Charenton from 1599-1619. In 1621 after the destruction of the Temple he fled to Sedan where he spent his remaining years.

11. J. Pannier, *Salomon de Brosse*, Paris 1911, p. 86 ff.

12. Sebastian Leclerc engraved its destruction, E. Lavisse, *Histoire de France*, Paris, 1911, VII, pt. 2, p. 78.

13. "Le Temple de Charenton 1606-1685," *B.H.P.*, 1857, V, pp. 173-4; II, p. 247, III, p. 148, 540; IV, p. 29; VI, p. 162.

14. The two are compared in contemporary engravings, M. D. Ozinga, *De Protestanche Kerkenbow*, pl. 49; J. Pannier *L'Église Réformée*, p. 454. Drawing by Francois Deublinger de Spire. It was also well known in England, G. Wheeler, *An Account of the Churches*, London, 1689, p. 117.

15. Jacques Perret, *Des Fortifications et Artifices*, Paris, 1594, 1620, and Frankfurt, 1602, quoted B.H.P. XLIX, pp. 521-522. Similar work issued under title, *Architectura et Perspectiva*, Frankfurt, 1602; plate O shows the temple. Copies of latter at Yale, British Museum (Oppenheim, 1613).

16. Many views of the temple have been published. One handsome print by P. Mariette, shows the temple and village from the Park of Vincennes which lay to the north. B.H.P., XXXIV, p. 388. For an elevation and plan see B.H.P., V. p. 178 and for a cross-section, J. Pannier, *Salomon de Brosse*, p. 87.

17. Parts of two temples have been identified as still standing at Villeneuve and Montebeliard, B.H.P., XLIV, 369-370.

18. K. E. O. Fritsch, *Der Kirchenbau des Protestantismus von der Reformation bis zur Gegenwart*, Berlin, 1893, pp. 44-45. Fritsch's work is the best account of German Protestant architecture and excellent for Protestant architecture generally.

19. *Ibid.*, p. 46. For other interesting and novel German designs which had only a sense of limited and rectangular space definition in common see the twelve-sided church of Hanau, 1622-1654, Paul Francke's Marienkirche in Wolfenbüttel, 1608-23; Albrecht von Saebisch, Friedenskirche in Schweidnitz, 1657-58, and the Kirche zum Heilige Kreuz in Augusburg, 1653, ibid. pp. 42-43, 49, 59, 61.

20. W. Dugdale, *History of Saint Paul's Cathedral*, London, 1658, pp. 154, 163.

21. *Ibid.*, p. 171 ff; B. Pite, and others, *Sir Christopher Wren Bicentenary Memorial Volume*, London, 1923, p. 54 ff and p. 212.

22. Maitland, *The History of London from its Foundation to the Present Time*, London, 1775, III, n.p.

23. The complicated issue of the Communion Table (like many other aspects of the liturgy) is dealt with definitively by G.W.O. Addleshaw, F. Etchells, *The Architectural Setting of Anglican Worship*, London, 1948, pp. 22-36.

24. F. Bond, *Chancel of the English Church*, London, 1916, pp. 106-108. Handsome early and late Stuart tables were used at Earle Stoneham and Thorington. H. M. Cantley, *Suffolk Churches and their Treasures*, London, 1937, p. 183. For a New England example see L. V. Lockwood, *Colonial Furniture in America*, N. Y., 1921, II, pp. 169-170.

25. F. Bond, *Screens and Galleries*, London, 1908, p. 126. Roy. Com. on Hist. Mon., *Essex*, III, 12-13. 34.

26. F. Bond, *Screens and Galleries*, p. 149. J. C. Cox, *Bench Ends in English Churches*, London, 1916, pp. 43-46, 154.

27. A sixteenth century gallery was preserved in the Berkeley Castle Chapel emblazoned with the arms of Henry VII and Henry VIII. F. Bond, *Screens and Galleries*, pp. 142-143. Bond listed seven other examples standing in 1908. Whitby illustrates the complete evolution of the gallery on all four walls. E. Vale, *Curiosities of Town and Countryside*, London, 1940, p. 121.

28. H. M. Cartley, *Suffolk Churches*, pp. 180-182. J. C. Cox, *Pulpits, Lecterns and Organs in English Churches*, London, 1915, p. 98 ff. In rude country parishes they changed little. Witness Withersdale, seventeenth century, Thornably, early eighteenth century, Gislingham, late eighteenth century and Shotwock, 1812. *Ibid.* and C. W. Budden, *Old English Churches, their Architecture and Furniture*, Liverpool, 1925, pp. 134-135.

29. The new fashion in tombs was perfectly illustrated at Ipsley on the north and south side of the chancel. On the south side John Husband and his wife Mary were buried in 1583 under a low rectangular engraved slab. Twenty years later his descendant was buried with his spouse under an elaborate, classical canopy. W. Dugdale, *The Antiquities of Warwickshire*, London, 1730, p. 740.

30. Maitland, *History of London*, III, n.p. J. Nightingale, *London and Middlesex*, London, 1815, pp. 278-280. *Dictionary of National Biography*, "Thomas Hardwick." Colin Campbell, *Vitruvius Britanicus*, London, 1717, III.

31. It will be noticed that no mention of Puritan architecture in England was made. This is because the earliest of these structures date from after 1640 by which time the roots of Protestant architecture had already been interpreted for Englishmen by the established church. J. Betjeman, "Non-Conformist Architecture," *Arch. Rev.*, LXXXVIII, 529, Dec. 1940, pp. 161-174.

32. Helen Rosenau, "The Synagogue and Protestant Church Architecture." Warburg and Courtland Institutes, *Journal*, IV, pp. 80-84. Articles deal with some aspects of the problem. *See Roy. Com. on Hist. Mon.*, London, IV, p. 11.

33. An excellent example is George Wheeler, *An Account of the Churches . . . of the Primitive Christians*, London, 1689.

34. Richard Krautheimer, *Mittelalterliche Synagogen*, Berlin, 1927, G. Lokomskii, *Jewish Art in European Synagogues*, London, 1947, and A. Grotte, *Deutsche, Böhmische und Polnische Synagogen typen*, Berlin, 1915, are the most useful works I have consulted.

FISKE KIMBALL *is familiar to architectural historians as the Director of the Philadelphia Museum, a pioneer authority on American building, and as the Chairman of the Restoration Committee of the Thomas Jefferson Memorial Foundation, which is responsible for Monticello. In this report on two Kentucky houses he indicates something of the nature of Jeffersonian influence west of the Alleghenies.*

JEFFERSON'S DESIGNS FOR TWO KENTUCKY HOUSES

When I published my *Thomas Jefferson, Architect* in 1916, reproducing Jefferson's designs in the Coolidge Collection at the Massachusetts Historical Society, I ventured to suppose that certain related drawings there reproduced as Nos. 185-192 were abandoned designs for Poplar Forest, Jefferson's retreat in Bedford County, Virginia. For the plan (No. 193) for the house at Poplar Forest, begun in 1804, Jefferson ultimately adopted a regular octagon—the first such house plan in the United States—which he had initially intended to use at Pantops, one of his farms near Monticello. The designs mentioned, with their octagon salons, drawn on the same type of coordinate paper as the Pantops-Poplar Forest plan, I thought might have been studies for Poplar Forest, then laid aside.

Suggestions are constantly being made that this or that house beyond the Blue Ridge in the Valley of Virginia, or beyond the Alleghenies in Kentucky or Ohio, were built from plans by Jefferson. In most cases it takes but a glance to see that such houses have nothing to do with Jefferson. Thus the house built by Judge Hugh Holmes in Winchester, Virginia, has been ascribed to Jefferson[1] on the strength of its temple form and the tobacco capitals in the ornamentation of the interior, although it is obviously a garbled provincial derivative of the pavilions of the University.

There are many similar claims, without foundation.[2] The owners of several such houses were indeed in correspondence with Jefferson about other matters, but he had hundreds of such occasional correspondents. His papers have been searched pretty fully for any allusions to house plans, but no new instances of such allusions have been found, with the following exception.

In Kentucky, the John Brown homestead, "Liberty Hall," in Frankfort has been stated to have been "built in 1796, on a plan furnished by Thomas Jefferson to John Brown . . . his law student . . . always his honored friend . . . one of the founders of the commonwealth."[3] The house is a characteristically post-Colonial one of two stories, gabled at front and ends, chiefly with Adam detail, and none of the character of Jefferson work. Jefferson and John Brown, however, exchanged numerous letters, 1788-1806, some of which we evidently lack. One, just lately observed, does refer to a house plan which Jefferson evidently enclosed to him:

Monticello April 5. 97

Dear Sir

Tho' you thought you had made such progress in your plan that it could not be altered, yet I send you the one I mentioned, as you may perhaps draw some hints from it for the improvement of yours. The method of building houses 2, 3, or 4 stories high, first adopted in cities, where ground is scarce, and thence without reason copied in the country, where ground abounds, has for these 20. or 30. years been abandoned in Europe in all good houses newly built in the country, and very often even in the cities. In Paris particularly all the new and good houses are of a single story. That is of the height of 16. or 18. f. generally, and the whole of it given to the rooms of entertainment; but in the parts where there are bedrooms they have two tiers of them of from 8. to 10. f. high each, with a small private staircase. By these means great staircases are avoided, which are expensive and occupy a space which would make a good room in every story. Nor is a single storied house as expensive as those higher, when [. . .] them from the cellars and offices below, and saving of partition walls, and charge [change?] the higher ones to the [. . .] ening of the walls below, the expence of mounting materials so high, space for chimnies great staircases &c. The wall of a single storied house should be brick and a half thick from the water table upwards, a four storied house must have the lower story 3. bricks thick, the second 2½, the 3rd 2. bricks and the fourth 1½. a difference of 50. per cent. 4. rooms in a 4 storied house have 16.

FIG. 1
Farmington, Louisville, Kentucky.

Courier-Journal photo, Thomas V. Miller, Jr.

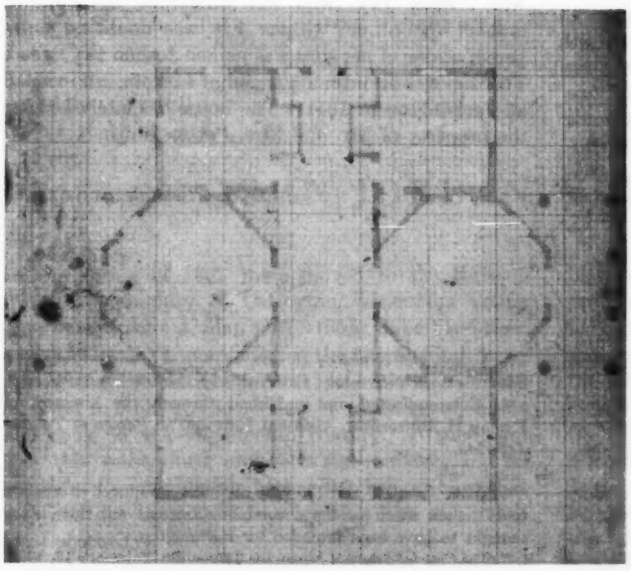

FIG. 2 *Coolidge Collection, Massachusetts Historical Society*
Jefferson's Plan for Farmington.

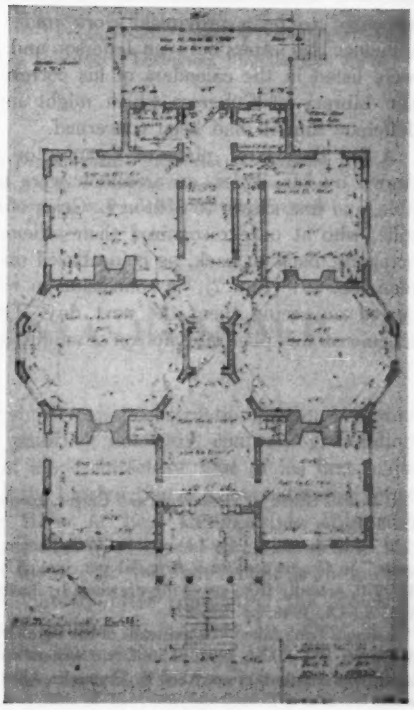

FIG. 3
Plan of Farmington, (*del.* William C. Tyler, Jr.)

side walls, and in a one storied house 12 side walls, a difference of 33 1/3 per cent. But all this you can calculate yourself. As you left Philadelphia later than I did, I can communicate nothing new to you.

Wishing you every felicity I am with great esteem Dr. Sir Your affectionate friend & sert.

TH: JEFFERSON.[4]

Obviously, Jefferson's recommended plan (which indeed arrived too late) was on the one-story scheme, an example of which we shall see he later drew for John Speed of Louisville. Any such spread-out plan would serve very well to fit the sparse indications of Jefferson's letter. With so little to go on, it is quite hopeless to identify the plan for Brown among the surviving plans of Jefferson not hitherto identified.

Perhaps I may be pardoned that I was very skeptical when Mrs. William C. Tyler inquired of me in July, 1946, about Farmington on the Bardstown Road in Louisville, Kentucky (FIG. 1), as locally reputed to have been designed for John Speed about 1810 by Jefferson. The facade was illustrated from wretched doctored photographs in Elizabeth P. Thomas's *Old Kentucky Houses*.[5] It showed a house of one story above a basement, with a central pedimented portico of four un-Palladian, slender, Doric columns, the front door having a doorway with oval fanlight and sidelights—a feature unknown in Jefferson's designs. It appeared to be a provincial work under Jefferson's influence. No letters between Jefferson and John Speed were listed in the calendars of his correspondence in the Library of Congress which might indicate that Jefferson himself had been concerned.

A few days later, plans of Farmington, Kentucky, drawn by Mr. Tyler, an architect, were made available, and first shown to Milton L. Grigg of Charlottesville, who at once recognized their scheme with two octagons, back to back, as being based on Jefferson's plan No. 191 (FIG. 2),[6] a conclusion in which I concurred on seeing them the next day. The essential scheme of this plan of Jefferson's, unique in his work, is its having the two octagonal rooms back to back, separated by a hall, and each flanked by square bedrooms, within a generally square mass, 50 x 62 feet. All these features, and even these outside dimensions, recur in the plan of Farmington (FIG. 3), though it has been modified by having the octagons at the sides instead of at the front and rear, and thus having its hall, narrowed and subdivided, from front to back. Whoever modified the plan was evidently a competent builder, for the changes are ingenious. The omission, in execution, of Jefferson's favorite alcove bedrooms is not surprising. It is the details, due to this executant, and departing from Jefferson's canons, which betray the hand of a provincial follower.

Jefferson's plan is drawn in pencil on the brown-lined coordinate paper he so frequently used from 1792 to after 1820, so that it gives no internal clue to the date of its composition. Various combinations of octagonal elements had preoccupied him from his earliest designs to his latest. The small fragment with studies for such combinations (Nos. 189-190) of which one is certainly the germ of the Farmington plan, is on paper without a watermark and does not assist us to date the design more closely.

John Speed, who built the house, was descended from James Speed, who had settled in Surry County, Virginia about the end of the seventeenth century. John's father settled near Danville, Kentucky about 1783. John married Lucy Gilmer Fry. The names Gilmer and Fry both suggest an origin in Albemarle County, Virginia and a close connection with the Jeffersons. The closest friend of Peter Jefferson, Thomas's father, was Joshua Fry, who left numerous descendants, among whom Lucy Gilmer Fry was doubtless numbered, as one of her sons was named Joshua Fry Speed. This son was an intimate friend of Lincoln, who visited at Farmington in 1841.[7] The house has lately become the property of Mr. and Mrs. Porter Smith.

PHILADELPHIA MUSEUM OF ART

1. Leaflet issued by Hasbrough and Carter, agents, advertising the house for rent, about 1921.

2. Thus, recently, Clay Lancaster: "Palladianism in the Bluegrass," in *Gazette des Beaux-Arts*, VI per., vol. XXV, 1944, pp. 347-370, actually from surviving drawings by Latrobe, *cf. ibid.*, Vol. XXIX, 1946, pp. 215-224.

3. James Lane Allen: "Homesteads of the Blue Grass," *Century Magazine*, vol. XXII, 1892, p. 56. Other writers who repeat this traditional attribution are Alice E. Trabue in Alice G. B. Lockwood, *Gardens of Colony and State*, vol. II, 193, p. 356, Elizabeth P. Thomas, *Old Kentucky Houses*, 1939, p. 27, and with skepticism, Rexford Newcomb: *Old Kentucky Architecture*, 1940.

4. Communicated and published through the kindness of Lyman H. Butterfield, Assistant Editor, *The Papers of Thomas Jefferson*.

5. P. 148.

6. While Nos. 187 and 188 were obviously produced in relation to 191, their much smaller accommodations prevent their being thought to have been intended for Farmington.

7. *The Courier-Journal Magazine*, Louisville, February 12, 1950.

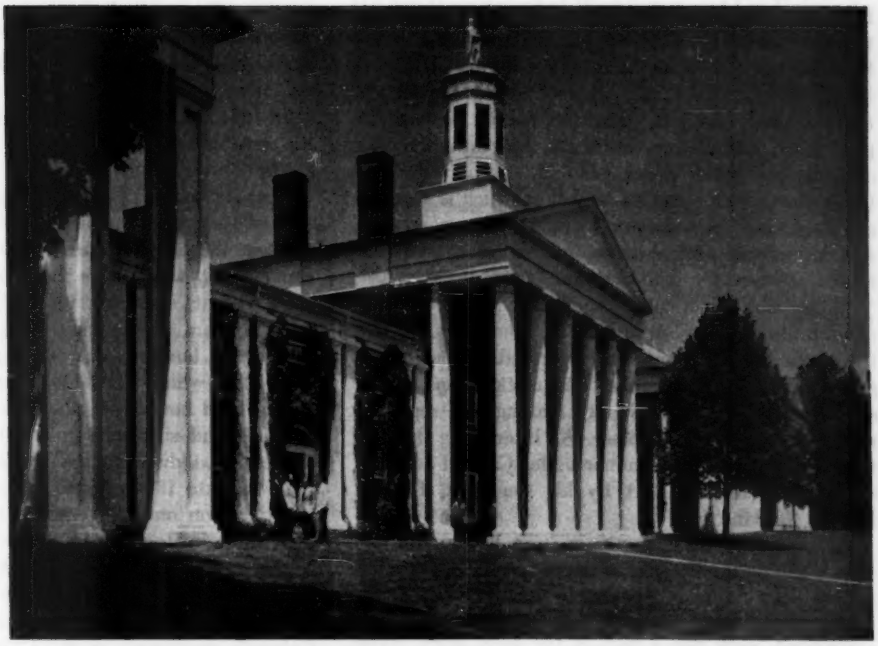

FIG. 1 *Virginia State Chamber of Commerce, Flournoy*
Washington Hall (center), Washington and Lee University, Lexington, Virginia, Col. John Jordan, 1824.

JERRY DONOVAN *was a senior last year under Dr. Marshall W. Fishwick in American Studies at Washington and Lee University. In this brief essay he calls attention to a little-known and versatile Virginia builder and thus helps to further the understanding of the Jeffersonian environment in that state.*

JOHN JORDAN, VIRGINIA BUILDER

In the spring of 1802 there moved to the thriving frontier community of Lexington, Virginia a young man named John Jordan (1777-1854). Like his father, who had made cannon balls for the Continental Army during the Revolution, he was determined to do all he could to build up the country to which his ancestors had come in the seventeenth century. So successful was this self-trained architect and builder, and so beautiful the monuments he has left behind him, that fate has not been kind in relegating him to all but local obscurity.

To the architectural student in the highly-specialized twentieth century, the variety of Jordan's interests and accomplishments is amazing. This self-taught craftsman was concerned with iron smelting, grist mills, blacksmith shops, canal construction, cotton and wool processing, painting, financing, contracting, building, and most of all, architecture. One of his first major projects was the construction of a covered bridge across the Maury River at East Lexington in 1810; this structure was destroyed by the Confederates to halt the Federal advance in 1864, but rebuilt as Jordan had designed it. Shortly after completing the structure, Jordan left Lexington to serve as an officer in the Virginia Militia during the War of 1812. He returned two years later, decorated for bravery and anxious to continue his architectural career.[1]

With this thought in mind, Jordan purchased a tract of land on the outskirts of Lexington and erected in 1818 a large home which he called "Stono." With this

building Colonel Jordan introduced Greek Revival architecture into Lexington, having acquired a great interest in the movement while away at the war. So far as is known, he never had formal architectural training, and there is no record of what architectural books he may have acquired for his library. His work at "Stono," and the other homes he built in the decades that followed, makes it plain that Jordan did not depend upon size or impressiveness, but rather upon a carefully-conceived relationship of proportions—between that which supports, and that which is supported. Because of this, Jordan's originality was assured, and his role as an important minor architect of the nineteenth century made certain.

Jordan was a meticulous craftsman, and took enormous pride in the work he and his men produced. On the grounds at "Stono" he operated woolen mills, grist and flour mills, lumber and metal shops, and a small foundry, with mechanics making and repairing machinery used on the place. An interesting description of activities at the manor under Colonel Jordan's supervision has been left by his grandson, Charles Francis Jordan:

> During the week the house was like a beehive, with the noise of the loom, the buzz of the spinning wheel, the clatter of wool cards and the lumber mill, and the glitter of knitting needles. From oldest to youngest, each had a part in the daily work. Even our clothes were produced on the place by the servants.[2]

That Jordan was aware of the architectural work of Thomas Jefferson, who was during these very years living out his life across the Blue Ridge as "the Sage of Monticello," there can be no doubt. His stylistic relationship to Jefferson is obvious in his later buildings, especially Washington Hall on the Washington and Lee campus. Of how often Jordan visited Charlottesville while Jefferson was designing and constructing the University of Virginia, we have no record; but a letter from Archibald Stuart to Thomas Jefferson (March 9, 1819), which accuses Jordan of conspiring to monopolize the brickwork contracts for the building of the University of Virginia, makes it clear that Jordan was well aware of Jefferson's work.[3] Here is a subject that deserves much closer study than it has received.

The decade of the 1820's was perhaps the most productive one in Jordan's career. During its first year he built the Neriah Baptist Church (his first and only effort at church architecture) several miles outside Lexington, and shortly thereafter he began work on a road eastward over the Blue Ridge Mountains. Although he had no training as an engineer or road builder, Colonel Jordan accomplished what was thought impossible at the time by surveying and constructing a road through White's Gap, and across the Blue Ridge into Amherst County. Called "Jordan's Trail," this road is still in use today, as is Jordan's road over North Mountain from Collierstown to Longdale, which was for many years Lexington's main connection with the West.[4]

In 1824 John Jordan undertook what is undoubtedly his architectural masterpiece: Washington Hall, which is the central building on the Washington and Lee University campus (FIG. 1). Begun as Augusta Academy in 1749, but renamed Washington Academy when George Washington presented the institution with canal stock, the college had only moved to its new (and present) location after a devastating fire in 1802. Just 22 years later Jordan was commissioned to build the central building, and he employed the Greek Revival style which he had used earlier at "Stono" and at the Reid house near the college grounds. Its sheer strength and simplicity make it one of the loveliest academic buildings in the United States.

In the late 1820's John Jordan and his sons began smelting iron on a large scale, owning and operating iron works in Rockbridge, Botetourt, Allegheny, Bath, Amherst, and Louisa counties. At one time they were operating twelve furnaces, the most important of which was the Lucy Selina (named for two of the Colonel's daughters) on the Clifton Forge road. During the Civil War the Confederate Government got much of its iron for cannons here, and the furnace was operated until 1911 as the Longdale furnace. Its remarkable state of preservation today, with every brick in the tall chimneys intact, speaks better than any words for the skill and integrity of Jordan's craftsmanship.

Canal building was one of the chief occupations of Jordan in his later years. He built the Bateau Canal at Balcony Falls, and the Lexington Canal, which connected with the James River at Lynchburg. This major undertaking was completed in 1852, and was used until the railroads became prominent in the 1880's and '90's. Up this canal Robert E. Lee transported his family and furnishings when he assumed the presidency of Washington College in 1865. In describing the canal, the local historian, Henry Boley, says with justification that, "Like everything else of importance about the place, it was constructed by Colonel John Jordan."[5]

The Colonel died July 25, 1854, and is buried in the Presbyterian Cemetery in Lexington. His will is on file in the county courthouse, and it reveals that his estate was valued at approximately $15,000: a considerable sum for his day. Most of Colonel Jordan's fourteen children migrated from Rockbridge County,

but Samuel stayed on to direct the iron business, and John W. to found Rockbridge Baths, a dozen miles from Lexington.[6]

Among the most impressive works of the mature Jordan which still stand in Lexington are the Episcopal Rectory, the home of the Misses Barclay, and the home of his son Samuel, which later housed the hospital of the Virginia Military Institute. There is no authentic list of Jordan's buildings at present, but the Art Department of Washington and Lee University has commenced the compilation of one.

(WASHINGTON AND LEE UNIVERSITY)

1. Accurate biographical information on Jordan is difficult to find. The three best sources are Henry Boley's *Lexington in Old Virginia* (Richmond, 1936), Oren F. Morton's *History of Rockbridge County* (Staunton, 1939), and an unpublished paper on Jordan by Harrington Waddell, in the Washington and Lee University archives.

2. Harrington Waddell, *op. cit.*, p. 5.

3. This letter is in the Jefferson Archives of the Alderman Library, University of Virginia. It is established that Jordan was during these years a frequent visitor at Belmont, a country home near Charlottesville, then owned by his brother-in-law, John Winn III.

4. Morton, *op. cit.*, 250 f.

5. Boley, *op. cit.*, p. 169.

6. While none of the sons displayed their father's virtuosity as builders, several were carefully trained by him. Samuel and Benjamin assisted in constructing Jordan Alum Springs, and fully improved the North River Canal. Samuel later built his own home, what is now the Virginia Military Institute Hospital, and several of the younger boys were active in the construction of iron furnaces.

THEODORE SIZER *is Professor of the History of Art at Yale University and former Director of the Yale University Art Gallery. This inquiry supplements his basic article on the architectural production of the artist-patriot, John Trumbull, which appeared in the July-December, 1949 issue of the* JOURNAL.

PHILADELPHIA'S FIRST PRESBYTERIAN CHURCH BY "MR. TRUMBUL"

Among the responses I received as a result of my article "John Trumbull, Amateur Architect" (JSAH, VIII, Nos. 3-4, July-December, 1949, pp. 1-6), there was one of unusual interest. Charles E. Peterson of the United States Department of the Interior, National Park Service, Philadelphia, pointed out to me a reference in *Stephens's Philadelphia Directory, 1796,* in which, among a listing of prominent structures then being erected in that city, there is the following: "The first Presbyterian Church by Mr. Trumbul." The intriguing question is whether the designer of this Roman Revival building, which no longer exists, could have been the "Patriot-Artist," Col. John Trumbull.

This reference in *Stephens's Directory* to "Mr. Trumbul" is the only one I know. For the facts of the case I am largely indebted to Mr. Peterson and to Richard Norris Williams, 2nd, Director of the Historical Society of Pennsylvania at Philadelphia. The church, begun in 1793, took the place of an earlier edifice, which had been built in 1704 and enlarged in 1729. Worship in the new building commenced in 1796, the year of *Stephens's Directory,* and continued until 1821. J. Thomas Scharf and Thompson Wescott, in their *History of Philadelphia, 1609-1884,* (Philadelphia, L. H. Everts & Co., 1884, vol. II, p. 1270), state:

"In 1793 the ancient meeting-house of the First Church, commonly called the 'Old Buttonwood,' situate at the southeast corner of Market Street and White Horse Alley (now called Bank Street), was found to be too small for the accommodation of the congregation. It was resolved that 'Old Buttonwood' should be torn down, and a larger and handsomer building erected in its place. The new church was one of the first in Philadelphia constructed upon the Greek [*sic*] model of architecture. The front was on Market Street, with four plain pillars, with Corinthian capitals, resting on a platform and supporting a pediment, upon the architrave of which was the inscription, 'Founded MDCCIV. Rebuilt MDCCXCIV.' The house was eighty-eight feet long, fifty-six feet broad, and forty feet high, having galleries. There were ninety-six pews upon the floor, holding six persons each, and altogether one hundred and sixty-three pews, having a seating capacity for nine hundred persons. The ascent to the main floor of the building was by eight marble steps . . . "

A little further on (pp. 1278-9) the authors continue:

"The First Presbyterian Church building, in Market Street, at the time it was finished was considered the handsomest religious edifice in the city. It was also eligibly situated. But the movement westward increased greatly in the early part of the century, and the Market Street Church became entirely surrounded with stores and places of business. In addition there was imposed upon the congregation, after some years, the necessity of expensive repairs. The showy portico on Market Street was supported by wooden pillars and exposed to decay, and fifteen thousand dollars was thought necessary to place the building in a tenable condition. A large number of the congregation thought it would be a waste to expend this amount upon the church edifice, and recommended that the lot be sold and a new church be erected at some other place. The point was not carried without controversy. A pamphlet, published in 1819, stated that all the pews were occupied . . . These statements were adduced in argument to show that there was no necessity for removing the church, and that it was in a state of prosperity. The arguments in favor of a change were at length successful. On the 1st of May, 1820, the congregation held a meeting, and by a vote . . . ordered the trustees to purchase the lot at Seventh and Locust Streets . . . The house was so far finished in July, 1821, that the congregation was enabled to assemble in the 'prayer-room.' . . . The new church building was the largest and finest yet erected in the city."

So much for the printed and written word. On the visual side, the best picture of the 1794-1821 church "by Mr. Trumbul" is the colored engraving by William

Courtesy of the Yale University Art Gallery

Engraving by William Birch of the First Presbyterian Church, Philadelphia, 1794-1821.

Birch, one of his thirty views of Philadelphia (item no. 168 in David McNeely Stauffer's *American Engravers upon Copper and Steel*, New York, Grolier Club, 1907, vol. II), first published in 1799, just three years after the completion of the building. It represents the white facade of a steepleless edifice with a heavy, projecting Roman portico, and a flattish roof relieved by urns at the corners. (Harold E. Dickson of the Pennsylvania State College points out to me that this "giant-order portico was surely the first within the city, preceded only by the one on 'The Woodlands' across the Schuylkill.") Four large Corinthian columns support the pediment, beneath which a central door is flanked by generous-sized windows with three windows of the same proportion above. Two single and two pairs of twin pilasters extend from base to cornice to match the columns in front. The classical edifice—whoever was responsible for its design—is an exceedingly interesting example of advanced architectural thinking in the new nation.

As to the possibility of the Trumbull authorship, this was the situation in 1792, when the plans for the church were undoubtedly prepared. After nearly nine years of schooling under the watchful eye of Benjamin West, Col. Trumbull returned from London in November, 1789. The artist knew his Paris well. He had last visited that city in the autumn of 1789. The Philadelphia church, designed three years later, recalls the Corinthian facade of the recently completed Panthéon by Soufflot, finished in 1781, which Trumbull greatly admired, and, to a lesser extent, the Church of Saint Philippe-du-Roule, with its four Doric columns and lettered frieze, designed by Chalgrin and finished in 1774. There is also, however, a strong suggestion of James Gibbs. The great Corinthian portico of St. Martins-in-the-Fields is reflected in the Presbyterian Church. This is what one might expect of the architectural style of the French-speaking, London-trained artist.

The thirty-six-year-old Trumbull, in 1791 and again in 1792, was actively engaged in collecting "heads" at Philadelphia, the capital of the new Republic. for his celebrated historical paintings, as well as thinking along architectural lines. James Hillhouse, a member of the Continental Congress and also Treasurer of Yale, had commissioned him to prepare a scheme for

the further development of the College. This project, one of the drawings of which was reproduced with my previous article, was executed with considerable distinction. Thus, besides being a belated pictorial reporter of the Revolution, the middle-aged artist, then at the height of his creative powers, was at that time actively engaged with architectural problems.

It is not inconceivable that this versatile New Englander, this outsider, fresh from Europe, conversant with the latest English and Continental fashions, would have been the choice of the church elders. "A prophet is not without honour, save in his own country and in his own house" (Matthew xiii, 57)—and Trumbull, a staunch Calvinist, was far from home. In Philadelphia, this former aide-de-camp of General Washington (now President) was moving in high political and social circles. Trumbull's celebrated father, the Colonial and Revolutionary Governor of Connecticut, had died a half-dozen years before; but his brother, another Jonathan, Washington's former Military-Secretary, was then a member of the Continental Congress and had been recently elected its Speaker. Trumbull was the "expert" from afar, socially correct, architecturally-minded, and a pious, God-fearing gentleman. Stylistically, the Church is what one would expect to come from the mind and hand of this amateur architect. Trumbull designed, it should be recalled, the Congregational Meetinghouse (illustrated with my previous article) in his home town, Lebanon, Connecticut, in 1804. The records of the First Presbyterian Church have been searched, through the kindness of Mr. Williams, who reports that although "there are a great many vouchers for digging and erection of the building, [there is] no mention of Trumbull"—nor of any other architect. Some of the readers of the JOURNAL might know the answer to the problem. My guess is Col. Trumbull.

YALE UNIVERSITY

AMERICAN NOTES

Besides being our Vice-President, Mr. Peterson has been extremely active in other local, state and national organizations engaged in forwarding preservation. He was instrumental in starting the Historic American Buildings Survey for the Department of the Interior. While studying the river front of St. Louis, where his work with cast-iron facades was early noted by Giedion, he became the founder of the William Clark Society and the St. Louis Historical Documents Foundation, as well as a member of the board of directors of the Missouri Historical Society. In Washington, D. C., he was President of the Thornton Society. He served as a commander in the Navy's Civil Engineer Corps during World War II. He has since become the Vice-Chairman of the Committee for the Preservation of Historic Monuments of the American Institute of Architects. He is now occupied in Philadelphia with the Independence National Historical Park Project, which is an effort to preserve a number of the outstanding structures of the Revolutionary and later periods.

CHARLES E. PETERSON, *Editor*
Old Custom House, 420 Chestnut Street, Philadelphia 6

For some time it has been a question of whether the most damage to early American architecture would come from total demolition or "restoration" without knowledge, taste and honesty. A worse fate than decent burial often awaits the end of an honorable life for some of our old buildings. Perhaps something can be done about it. Your editor would like to make this new department an opportunity of expression for those who have worked on the fabrics of old buildings and studied the documents relating thereto. By pooling information we can hope to build up additional knowledge of the subject for the use of fellow investigators.

The art of fine writing and the original gathering of significant historical facts are two different types of activity not often done well by one person. We aim to give this department more of the atmosphere of a workshop than of a literary tea. Whoever has a long-half-finished essay with some good new data, why not recast it informally for this department instead of waiting to perfect a gem of the English language? The interest of contributors will have much to do with the success of this department.

We are very happy to announce that beginning with the May, 1951 issue we expect to have regularly a "Letter from Virginia" by A. Lawrence Kocher, well-known architect, author and editor now with the Williamsburg Restoration. We will also be glad for "letters from the people." When it is only a matter of opinion to be expressed such communications should be less than one hundred words long (*vide Life Magazine*). Exactly documented compositions may run much longer.

For our March number we are considering a collection of notes on early American heating by stoves and coal. It will surprise many to learn that this began well before the Revolutionary War.

BURNING BUILDINGS FOR NAILS

The scarcity of iron mongery—as well as all other manufactured products—on the frontier is well known to American historians. Stories have been heard from time to time about how cabins were burned down to recover the nails, which were more valuable than the woodwork. We were pleased to receive from Delaware State Archivist Leon de Valinger a transcript from a 17th century document in his collections showing that an early Kent County courthouse was ordered destroyed for that very reason. Quoted herewith is the business part of the record:

> County of Kent ye 28th of ye Second Month 1691
> Whereas it was agreed upon and Ordered at ye Last Quarter Sessions ye first month Last that the Settleing of ye Court house should be desided this day by Gener.ll vote of ye freemen & Inhabitants of this County, and wee under written being mett this day according to ye Said Order of Court doe unanimosely agree and Conclude as foll.s That 50 Acres of Land shall be purchased of William Morton and a Court house built and the Court shall be keept for ye futr there and that ye purchas money thereof to be leveyed on ye publick and alsoe for ye building of a Court house and prison and the said Land and Houses to be and Remaine for ye publick use of ye County Whereunto wee have Sett our hands the day and yeare above said and wee doe alsoe Concent that ye old Court house may be burnt to gett the nailes.

EARLY SANDED PAINT FINISH

In removing paint from Carpenters' Hall, Philadelphia, in June, 1950 it was found that the bottom

coat on the exterior trim was a putty-chicle color mixed with light-colored sand, as were subsequent coats. The architectural decoration of this building, built 1770-1774 (main doorway frontispiece added 1791), is of mixed stone and wood. Both materials were painted over and sanded to look like stone. We wrote to several friends about this type of finish, which seems to have been more common than is generally supposed.

Architect Milton L. Grigg of Charlottesville, Virginia in restoring Edgemont (Albemarle County, 1796) found a large section of rusticated wood siding concealed for years and still having the original sanded finish. The blocks and joints were finished in contrasting colors of which he made a Kodachrome record. Mr. Grigg believes that in this country stone-colored exterior finishes were done in imitation of the British-Georgian stone architecture. It might be noted here that the cash books of druggist Christopher Marshall, doing business a block away from Carpenters' Hall, show that he was selling "Stone colour" paint in 1776. (*Marshall Waste Book, MS, Col. 1587*, Historical Society of Pennsylvania.) Certainly wood and stucco imitations of stone lintels and quoins were not uncommon. Last year in the restoration of Hampton Mansion, Baltimore County, Maryland, it was found that the original finish of the East Wing (built of field stone masonry, dated 1783 in lead numerals) was a peach or terra-cotta stucco laid off with painted white lines to imitate regular ashlar masonry. This was undoubtedly related to the common practice of "marbleizing" interior trim.

Architects Thomas T. Waterman of Washington and Singleton P. Moorehead and A. Lawrence Kocher of the Williamsburg Restoration point out the reference in Price's *Builder's Dictionary* (1734) which shows that the Dutch and English coated exterior woodwork with pitch and tar to which sand and powdered shell were applied "which encrust and arm it wonderfully against all Assaults of Wind and Weather . . . " Tarred buildings are said to have been common in Virginia, but we don't know of any that have been restored.

Walter M. Macomber, architect for Mount Vernon, who supervised the re-erection (1935-6) of "The Lindens" on Kalorama Circle, Washington, writes that the rusticated siding of this house, originally built at Danvers, Massachusetts in 1754, showed clear evidence of a sanded finish, possibly applied to ship's varnish. Mr. Macomber feels that the finish may also have been used on Peter Harrison's Redwood Library at Newport (contract awarded Feb. 6, 1749).

Mount Vernon, home of George Washington, is, of course, the best known American example of *ersatz* stonework, and the sanded paint finish there has fortunately been restored to the rusticated wooden siding which covers the mansion. Superintendent Charles C. Wall writes that there are physical evidences that sanded paint was used there before the Revolution, but that all definitely dated references are later.

George Washington himself left the best eighteenth century record of sanded paint we have. Writing January 13, 1793 to Manager Whiting at Mount Vernon he states that he is sending oil and paint down from Philadelphia and asks that more white sand be brought up from Point Comfort to be added to the stock procured from there many years earlier. He also suggests that experiments be made with powdered stone. The results were evidently satisfactory, for some years later, and just before he died, Washington sent instructions to William Thornton in Washington City. The latter was then superintending for him the construction of some new houses on Capitol Hill.

> Sanding, is designed to answer two purposes, durability, and presentation of Stone; for the latter purpose, and in my opinion a desirable one; it is the last operation, by dashing, as long as any will stick, the Sand upon a coat of thick paint. This is the mode I pursued with the painting at this place, and wish to have pursued at my houses in the City. To this, I must add, that as it is rare to meet with Sand perfectly white, and clean; all my Houses have been Sanded with the softest free stone, pounded and sifted; the fine dust must be seperated from the Sand by a gentle breeze, and the sifter must be of the finess the sand is required and and it is my wish to have those in the City done in the same way. If the stone cannot be thus prepared in the City, be so good as to inform me, and it shall be done here and sent up. It must be dashed hard on, and long as any space appears bare. I am etc. (October 1, 1799. See *Writings of Washington*, Washington, 1939, 1940, Vol. 32: 302, 318, Vol. 35: 263, 264. Vol. 37: 387.)

Washington may have learned the technique while in Philadelphia, where some of our Revolutionary patriots from up and down the coast got their first real architectural education. The earliest Philadelphia documentation pointed out to us was for the finish of the wooden bridge over the Schuylkill built 1798-1806 (T. G. Fessenden, *The Register of Arts*, Philadelphia, 1808, 321).

Sanded paint finish was generally common in the Victorian Period and men now living can remember seeing the sand dried by heating and applied with a hand bellows. It was thought to be valuable as fireproofing.

The state of our published knowledge of Early American paint finishes is truly pathetic. We would be glad to set forth a bibliography on the subject if readers will add to the half-dozen titles now in hand.

FIG. 1 *Courier-Journal photo, Lin Caufield*
Charles Heigold House, Louisville, Kentucky, 1857-66.

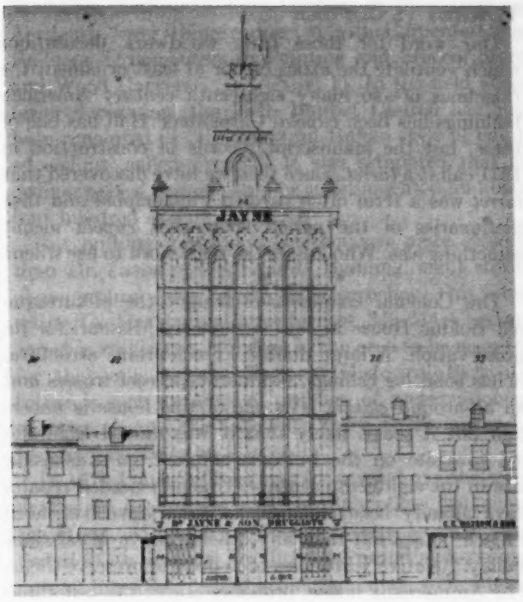

FIG. 2 *Penn Mutual Life Insurance Company*
1851. Elevation from *Rae's Philadelphia Pictorial Directory and Panoramic Advertiser*. The Granite Building towers high above its Georgian surroundings. At the sidewalk level were two huge plate glass windows inviting customers into a vaulted Gothic drug store. On the second floor Dr. Jayne received patients every morning and afternoon in his elegant consulting rooms.

FIG. 3 *Library Company of Philadelphia*
1856. Lithographic print. Shortly after the original completion of the building additions were made to the East and West.

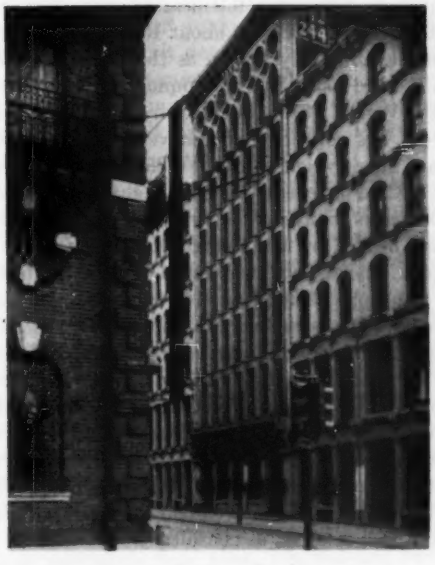

FIG. 4 *Peterson-National Park Service*
1950. The main lines of the cut granite facade remain as planned by the architect. Building is now occupied by a furniture concern.

TURRET vs CUPOLA

Our word for those little woodwork decorations which ventilate the attics of—or at least ornament the ridgelines of—so many eighteenth century American buildings has been *cupola*. Carpenters' Hall has one of these, but the manuscript records of construction in 1771 call it a *turret*. Since then we have discovered that *turret* was a term often used in Philadelphia and that dictionaries of the period show that *cupola* meant something else. Who knows the right word to use when?

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The Colonial Dames have bought the picturesque old Bolduc House in Ste. Genevieve, Missouri for its preservation. A large double French frame structure, it has solid log ceilings, Norman-type roof trusses and an all-around *galerie*. The age of this house is uncertain but it seems likely that it was moved from the old townsite on the bottoms across from Kaskaskia late in the eighteenth century. Urgently needed repairs have already been started. Ste. Genevieve has more French houses left than any other town in Mississippi Valley. Relatively little has been done to preserve them. The Ammoreaux house, probably one of the last three palisadoed-wall buildings in the United States (*poteaux en terre* of red cedar) is threatened with demolition by its owner. It could probably be bought for very little.

CASTLE CLINTON RESTORATION

On July 6, 1950 the transfer of title of Castle Clinton on the Battery, Manhattan Island, from the City of New York to the Federal Government was made effective. This little fortification, one of a number at the harbor, was built about 1808 by the War Department. Originally known as the "Southwest Battery," it served as military headquarters of the city during the War of 1812. Given up by the Army in 1823, the fort was converted successively to "Castle Garden," an immigration station (1855) and the Aquarium (1892). For several years it stood vacant, becoming the center of a lively controversy between preservationists headed by Mr. George McAnneny and New York park officials, who wanted to do away with it.

An appropriation of $165,000 to the National Park Service has been made by Congress for the preparation of plans and initial restoration work, which is to include the removal of modern excrescences, restoration of exterior walls of brick and stone and rebuilding the retaining walls of the little seven-sided island on which it originally stood. Drawings are being prepared under the direction of Regional Architect A. J. Higgins at Richmond. Architect William Platt of New York City has been retained as consultant.

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Mary Wingfield Scott of Richmond, Virginia with characteristic enthusiasm has put up a battle royal to save "Linden Row," a group of eight three-story Greek Revival houses which lends considerable distinction to a block of West Franklin Street. Richmond has been enjoying a great post-war boom and the houses stand in the path of downtown commercial growth. To prove her sincere belief that such buildings can be redeveloped without loss of architectural character, Miss Scott personally bought three of the houses and will make a demonstration project of them. That's what we call preaching and practicing along the same lines.

THE U. STATES AND LOUISVILLE

Editor Creese, who has converted the mayor of Louisville to membership in SAH, reports additional accomplishment in that quarter. The Charles Heigold house in Louisville has been recently bought by the city (FIG. 1). Action to save it from the encroachment of a dump was taken on the recommendation of the Louisville Committee for Historic Monuments, appointed last year by Mayor Charles P. Farnsley. It is planned eventually to make it the focal point of a land-fill park.

The house is an unusual product of the amateur spirit which flourished everywhere just before the Civil War and reflects the factional excitement current in the border states. Between 1857 and 1866, the builder carved and painted on the facade of his house his personal political creed. In a niche above a second story balcony is a bust of President Buchanan. On the balcony door behind a pane of glass is a reproduction of Stuart's best-known portrait of Washington. Further interjections above the second story windows read, "Hail all men of the U. States," and "Hail to the City of Louisville." Busts and inscriptions around the first floor apertures include portraits of relatives and the family names, Heigold and Lamlein.

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Many requests for Federal ownership or recognition of historic sites and buildings are received by the National Park Service each year. Following is a partial list, grouped according to states, of the requests received and examined by the History Division, National Park Service, from July 1949 to July 1950. In some instances extensive investigations were made of the proposals. This list does not include such popular items as battlefields and modern memorials.

Alabama: Fort Morgan and Spanish Fort, Mobile; Helen Keller Birthplace, Tuscumbia. Arizona: Fort Lowell, Tucson. Arkansas: Belle Grove and Ashland Plantations. California: La Casa del Rancho, Inglewood; Fort Mason, San Francisco; Fort Point, Presidio of San Francisco. Delaware: John Dickinson House, near Dover; Fort Delaware, New Castle. District of

Columbia: Decatur House, Washington. Florida: Cape Florida Lighthouse; Solano House, St. Augustine. Indiana: Columbia City. Kentucky: Thomas Lincoln Home, Hodgenville. Louisiana: Vieux Carré, New Orleans. Maine: St. Croix Island (buried remains only), Calais. Maryland: Iron Furnace, Mt. Savage; "Smallwood's Retreat." Michigan: Fort de Baude, St. Ignace. Minnesota: Fort Ripley, Little Falls. Missouri: Jefferson Barracks, near St. Louis; Alexander Majors House, St. Joseph; Saline County Courthouse; Dr. John Sappington Memorial, Arrow Rock. Nevada: Bowers Mansion, near Reno; Methodist Church, Austin; Virginia City. New Hampshire: Fort Constitution, Portsmouth; St. Gaudens Memorial. New Jersey: George Washington House, Newark; St. James P. E. Church, Long Branch. New York: Aspinwall House, Flushing; Houses on Washington Square, New York City; Walt Whitman Birthplace, Huntington. Ohio: President Garfield's Birthplace, Cuyahoga County. Oregon: Marion County Court House, Salem. Rhode Island: Fort Adams, near Newport. South Carolina: McElwee Home, near Kings Mountain National Military Park. South Dakota: Fort Randall, Pierre. Virginia: "Ash Lawn," Albemarle County. Washington: Fort Columbia; Fort Walla Walla, Walla Walla. Wisconsin: Fort Winnebago, Portage.

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Antiques Magazine for July, 1950 is almost entirely devoted to restorations of buildings in this country. It carries four articles with general principles of how to do such work by G. Edwin Brumbaugh, Newton B. Drury, S. P. Moorehead and Felicia Doughty Kingsbury. There are general sketches of organizations and problems at Newport, R. I., Tombstone, Arizona, Deerfield and Sturbridge, Mass., New Castle, Del., and many other places. In recent years Editor Winchester has been using an increasing number of articles on architectural subjects.

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A hundred years ago in Philadelphia the architectural tug-of-war between aesthetics, history and technology was as fierce as it always has been. The *Public Ledger* reported progress in varied forms for the latter half of the year 1850.

A four-story "gasometer," or gas holder, was being erected with a framework of iron cast in a Southwark foundry. "The columns of each story are a different order of architecture, and the combination will, when complete, present a beautiful appearance" (July 1). The new iron building of the Penn Mutual Insurance Company, which still stands at Third and Dock Streets, had to be pulled down and rebuilt because of a miscalculation which caused it to overlap the property lines about three inches (Oct. 1). S. Sloan and T. Wadskier, Architects, were teaching at their Drawing Academy "everything connected with Carpenters and Builders, Ornamenters in Painting and Stucco, Stone and Wood Carvers . . . " (Nov. 1). In the field of interior decoration, the Fifth Baptist Church had just been repainted in "the beautiful Italian style of painted ceilings called Fresco." It was estimated that an ordinary-sized church could be so ornamented for about four hundred dollars (Nov. 7).

But nothing under construction was more striking than Dr. Jayne's New Granite Building, eight stories above ground (plus tower) and two below. This interesting Gothic Revival structure at 242-244 Chestnut Street is still in use, standing in the area to be acquired for the Independence National Historical Park. Its future is such an unusual problem of preservationism that we devote the following space to giving architectural historians an idea of it.

In 1873 Louis Sullivan was for several months a cub draftsman in Furness and Hewitt's office just across the street. Although he does not seem to have mentioned in his writings Dr. Jayne's "proud and soaring" patent medicine headquarters, we may well wonder if some of the famous skyscraper designs of Chicago and St. Louis do not owe a real debt to Philadelphia.

ANTE-BELLUM SKYSCRAPER

In the annals of the American skyscraper there was, perhaps, nothing more daring than John McArthur, Jr.'s design for the Jayne Granite building, erected on lower Chestnut Street near the Philadelphia riverfront, just a century ago (FIG. 2). More than a generation older than the celebrated works of Louis Sullivan in Chicago and St. Louis, it deserves study and evaluation by the historian of modern architecture. Whether or not the Jayne building was one of an evolutionary series—or only a sport of the Victorian Period—is more than a matter of casual interest.

Dr. Jayne's New Eight Story Granite Building is described in the Philadelphia *Public Ledger* for November 29, 1850. Although not quite completed, the owner was then moving into the lower stories. It had cost over a half million dollars and was concluded to be the "most extensive as well as expensive" private building in the United States. The only constructor's name identified is that of Solomon K. Hoxie, who did the cut stone work and possibly had a general contract for the whole.[1] The steam hoisting apparatus, which lifted the granite blocks into place, made more of an impression on reporters than anything else.[2]

Six years later, an insurance survey described some of the features of this remarkable structure and includes one small-scale floor plan. The building had a forty-two foot front on Chestnut Street, a depth of

one hundred and thirty-seven feet and a second front on Carter's Alley (now Ionic Street). Exterior walls were of brick and varied from eighteen to twenty-six inches thick; the two fronts were of cut granite topped with heavy cornices. By an underground tunnel the basement was connected to the Post Office Building on Dock Street.[3]

The floors, thought to be fireproof because there was a layer of plaster under the boards, were supported by wooden girders running down the center of the building on a row of fourteen iron columns. Only in the subbasement was there an iron girder, presumably a concession to underground moisture.

Fire protection was expected from the building's private water system which consisted of a tin roof, acting as a rain catchment and five iron tanks on the eighth floor with a capacity of five thousand gallons. This also served for sanitation, there being a "spring seat water closet" on each floor. As might have been expected, the system did not work well and there was a shift not long afterwards to a water supply pumped up by steam from city mains to the roof.

The roof was crowned by a two-stage Gothic tower of wood covered with tin, and a flag pole. Inside was a circular staircase to bring the sight-seeing public to the top, 130 feet above the street. This raises the question of elevators—ten stories being too high to be readily climbed on foot. In this matter the insurance survey is not too clear. On the roof were two "hoisting machines" which communicated through "hatchways" in each floor, but whether these were intended for passengers or only for freight is not stated. The ground floor plan shows a number of stairways, straight and circular, and what is presumably a "hatchway." If there was a passenger elevator, it must have been one of the first American examples in use.[4]

David Jayne & Son "at the New Eight Story Granite Building" advertised drugs, chemicals, paints, dyes, perfumery and fancy goods. Through peddlers, handbills, almanacs and newspaper advertising they built up a tremendous patent medicine business—all over this country and some others.[5] The Granite Building was the tallest in Philadelphia—church spires excepted—and was featured on the cover of the Jayne annual *Medical Almanac and Guide to Health*, of which two and a half million copies were distributed in 1858. In 1860 there was even a Chinese edition!

This remarkable *tour-de-force* of the architectural and advertising worlds was the work of a Philadelphia dark horse named John McArthur, Jr., only twenty-seven years old at the time.[6]

Within a few years, two large six-story flanking buildings were added to the east and west of the first unit, as if to support its thin mass and keep it from tipping over (FIG. 3). On the night of March 4, 1872, the structure caught fire. Engine companies were hampered by freezing weather and the flames spread through the upper floors, the tower collapsing with a spectacular crash.[7] The granite front on Chestnut Street was not damaged and fortunately, except for the main cornice, seems to have come down more or less intact (FIG. 4)—one of the most original yet prophetic designs of the nineteenth century.

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Dr. Jayne seems to have been pleased with the young architect for they subsequently collaborated on other work, including Jayne's own residence. McArthur had a penchant for designing the large and the unusual. His Continental Hotel at Ninth and Chestnut Streets built 1857-60,, was said to be "the most magnificent hotel in the country" and to have had one of the first passenger elevators. His Philadelphia City Hall, for which ground was broken in 1871, was said on completion to be "larger than any single building in America" and its tower, topped by the Penn statue, (435′), to be "the highest artificial construction in the world." Joseph Jackson, *Early Philadelphia Architects and Engineers*, Phila., 1923, 254-256. *Public Ledger*, Oct. 1, 1850. *The Public Ledger Building*, n.a., Phila., 1868, 48. *Will of David Jayne, M.D.*, n.d., 3. (Jayne died in 1866.) Scharf and Westcott, *History of Philadelphia*, Philadelphia, 1884, I: 734; III: 1774.

7. *Public Ledger*, March 5, 6, 7, 11, 1872.

S. A. H. NEWS

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Supplementing *The Jefferson Papers of the University of Virginia*, described in the March-May issue of our JOURNAL, is the little booklet, *Annual Report on Historical Collections, University of Virginia Library*, Charlottesville, University of Virginia, 1950. It covers papers acquired between July 1, 1947 and June 30, 1949. Among the 127 new Jefferson items are letters alluding to the construction of the University of Virginia, Poplar Forest and the Washington Monument.

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Dr. Henry Chandlee Forman, head of the department of art at Agnes Scott College and author of *The Architecture of the Old South*, has forwarded a list of six illustrated lectures he is interested in giving during the current academic year. They are: 1. Jamestown, America's Most Historic Site; 2. Chichen Itza: Sacred City of the Maya; 3. Mexican Miracle Painting; 4. The Medieval Architecture of the Old South; 5. The Architecture of the Transition; 6. St. Mary's City, America's Birthplace of Religious Freedom.

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ELIZABETH R. SUNDERLAND is Assistant Professor of Art History at Duke University. This study presents the results of a year's leave of absence to do further excavation on the remains of what she believes to be a rare example of the late Carolingian church style.

A LATE CAROLINGIAN CHURCH AT CHARLIEU IN BURGUNDY

Archaeologists have found much difficulty in developing an understanding of the history of church architecture in the late Carolingian period, which comprises the late ninth and early tenth centuries. Many buildings have been torn down and replaced by new ones, others were destroyed in war or accident, still others have been lost to all practical purposes due to concealing reconstruction or to the loss of documents concerning them. Rare indeed are the buildings which can be definitely assigned to this period of time. Yet this was apparently the important period in which were developed the ideas of the ambulatory and the two-towered façade so essential to later Romanesque and Gothic design.

At the site of Charlieu, Loire, in the ancient province of Burgundy, excavations (FIG. 6) have revealed the foundations of an early church building among the substructures of an eleventh century Cluniac abbey. This early church could possibly belong to the late Carolingian period, as the monastery of St. Fortunat of Charlieu is known to have been founded in 872 A.D.

The plan of the church foundations, as one can see it on the site (FIG. 1) is characterized by a semisubterranean ambulatory passage encircling the main apse and an axial absidiole. The exterior of the passageway is decorated with semicircular buttresses. This corridor was certainly planned, as was common in Carolingian times, to give access to the relics of the saint in a *martyrium* under the main altar.[1] In all probability there was a *fenestella* on the axis giving the pious visitor a view of the reliquary area. In form the ambulatory of Charlieu seems to resemble that of St. Martin of Tours (possibly built 904-919 A.D.[2]) more than any of the other known early crypt passageways, though St. Martin possessed five absidioles. The fact that the ambulatory of Tours is on the main level of the church does not prevent comparison, because in this case the passage was specially raised from the more usual lower position to avoid water seepage from the Loire. As St. Martin is commonly considered the source for the ambulatories of later Romanesque and Gothic times, it would obviously be important, if possible, to be able to date precisely the ambulatory passage of Charlieu. The source for the plan of St. Martin might prove to be this early church of Charlieu.

Excavations carried out at Charlieu in 1927, which laid bare most of the site, uncovered all the eastern parts of the foundations of the two churches and the central areas to the middle of the eleventh century nave. A detailed study[3] of the eleventh century abbey was made possible by these excavations, but more digging later was necessary to reveal the complete plan of the earlier building.

In November 1938, with the generous help of the Société des Amis des Arts de Charlieu, then under the presidency of the late Dr. Vitaut, the writer was able to continue the excavations as far west as the eleventh century façade, which still exists. Although this was still not an extensive enough excavation to uncover the façade of the earlier structure, some important facts were discovered concerning this ancient building. On the north wall a part of a semicircular mass (FIG. 5) was found under the east side of the eleventh century façade, and farther to the east a complete semicircular buttress (FIG. 3). Both were tailed into the wall and they resembled in form the buttresses visible around the ambulatory passage. At some time the buttress must have been chiseled off the upper wall, for it was obviously destroyed almost down to the bottom layer of foundation stones (FIG. 3). Alongside the remains of the nearly destroyed semicircular buttress is the complete foundation of a rectangular buttress made of masonry of a different style and applied against the old wall, its position corresponding to the position of a pier base inside the church. Other rectangular buttresses were uncovered (FIG. 4) which had been applied in this same additive manner to the old walls. They all corresponded to pier bases inside the church. The

fact that this whole series of rectangular buttresses, always clearly visible among the ruins, had been thus applied later to an earlier structure was not readily apparent to even an expert observer, because of the necessary protective covering of mortar spread over the foundations exposed by the 1927 excavations.

But now the sequence of building has become completely clear. The earliest church must have been built with a wooden roof, for there are no interior piers on which vaulting could have been supported, and the simicircular exterior buttresses are too far apart to resist the thrust of a vault covering the whole space of the nave. The semicircular buttresses were later removed and replaced by rectangular ones built both inside and outside the old walls, closer together than the early semicircular ones. In addition two lines of piers, corresponding in position to the new wall supports, were built inside the church throughout its entire length, thus dividing it into nave and aisles. All this construction could have been done only for the purpose of vaulting the building. But this interesting and important rebuilding will not be further considered in this study. It is the church in its original form that concerns us here.

Not until 1949 was it possible for the writer to take up again the problem on the site and complete the job of excavating to recover the whole plan of the early church. Again the work was carried out under the auspices and with the cordial help of the Société des Amis des Arts, now under the leadership of M. Vercherin. This time the digging had to be done under the beautiful twelfth century narthex of the abbey church. The original façade was unearthed sufficiently to indicate precisely the complete plan of the original church. In addition the foundations of a structure, built of the same masonry as the rectangular buttresses and pier bases of the remodeled church, were uncovered to the west of this earliest façade (Fig. 1). These latter foundations may well be those of a narthex added at the time the church was rebuilt.

The plan of the early church (Fig. 2), as it may be reconstructed from this new evidence, shows that there were pencil towers flanking the façade as well as the apse, and semicircular buttresses placed at each side of the west door, along the nave walls, and around the ambulatory passage. This original structure, characterized so remarkably by these round towers and semicircular buttresses and by the unusual semisubterranean ambulatory passageway, must have antedated the annexation of the monastery of Charlieu by the order of Cluny in the year 932, because its plan and construction differ fundamentally from anything found at Cluny or known to have been built anywhere under Cluniac direction.

The first church, then, can be presumed to have been built sometime between 872 and 932 A. D., that is, within the late Carolingian period. This dating decided the writer to make a detailed study leading to a reconstruction model of this almost certainly Carolingian structure as a scholarly contribution to information on this important but very little known period of the Middle Ages.

A statement quoted by various authors including Mabillon in his *Annales* and Severt in his *History of the Archbishopric of Lyons* implies that no professional builders were used on the first church of the monastery of Charlieu, for it says that the work was done personally by Abbot Gausmar and his monks.[4] Mabillon's transcription reads *per manus et cooperationem venerabilis Abbatis Gausmari suorumque monachorum.*[5] If this statement is literally true, the building we are discussing must be later than the original foundation, for the beautiful masonry which characterizes it could hardly have been done by any but professional masons. However, present day scholarship is veering away from the idea that monks ever had much if anything to do with the actual construction of church buildings and is beginning to develop the opinion that statements such as the one quoted above are no more than pious legends. Thus the church under discussion may very possibly have been the original church of the monastery built in the Carolingian period.

It would help to date the church more precisely if we knew how many monks were in the congregation at the beginning. The church in question was very nearly as big as the eleventh century one and would therefore seem to have been planned for a nearly equally large number of monks. Unfortunately no records exist which divulge that information. Perhaps it is only reasonable to assume that such a large building could have been constructed only at a later time when Charlieu had acquired considerable property and therefore could logically have supported a large group of monks. Reasoning of this sort could date the building about 920-926 when records indicate that Charlieu had considerable property,[6] thus keeping it still within the late Carolingian period.

The masonry of the original building (Figs. 5,6,7) is unlike anything of an early date now to be seen in Burgundy. It is characterized by a very consistent use of small rectangular stones, tending towards squares, interspersed with an occasional boulder, and laid up with an enormous amount of mortar. It more nearly resembles ninth and tenth century masonry to be found in the Touraine than any early stone work in Burgundy. The excellent plates in Abbé Plat's book on the Touraine[7] give a very good idea of Turonian masonry.

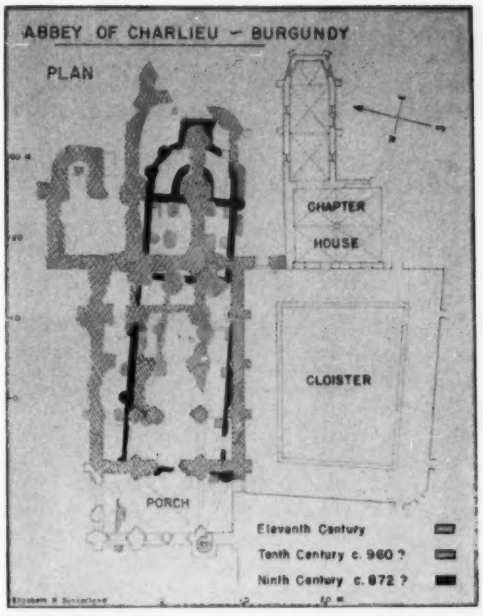

FIG. 1
Charlieu. Plan of the ruins.

All Photos by E. R. Sunderland

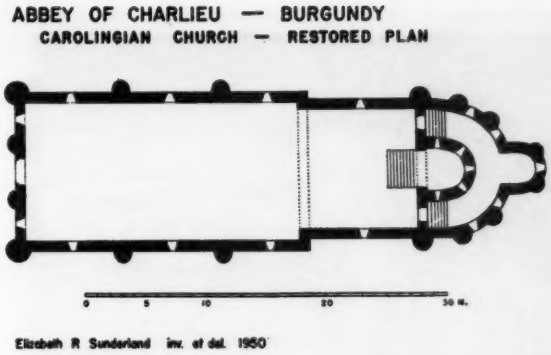

FIG. 2
Charlieu. Carolingian church. Restored plan.

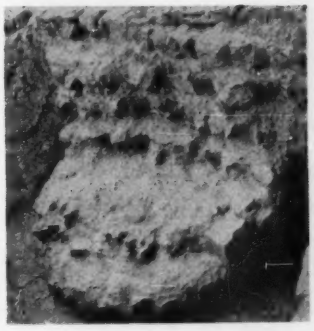

FIG. 3
Charlieu. Excavations of 1938. Carolingian church. Exterior of north wall, base of round buttress.

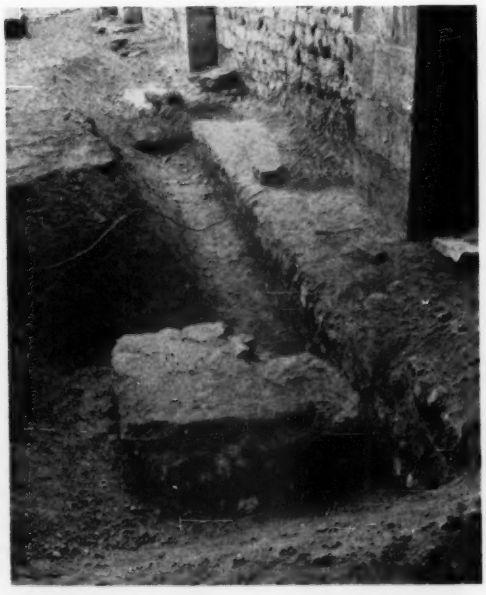

FIG. 4
Charlieu. Excavations of 1938. Carolingian church. Interior of south wall, base of rectangular buttress added later.

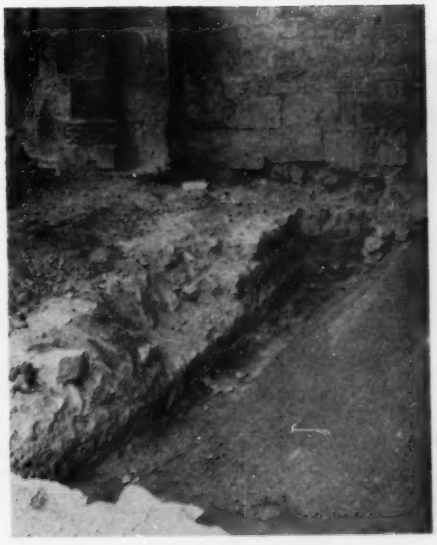

FIG. 5
Charlieu. Excavations of 1938. Carolingian church.
Base of north west tower of façade.

FIG. 6
Charlieu. View of ruins looking west.

FIG. 7
Charlieu. Excavations of 1949. Carolingian church. Base of southwest tower of façade.

FIG. 8
Villeporcher. Exterior of church.

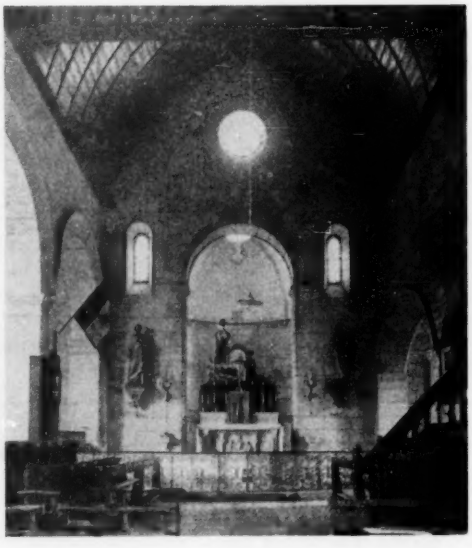

FIG. 9
S.-Ouen-les-Vignes. Interior of church.

FIG. 10
Autreche. Apse of church.

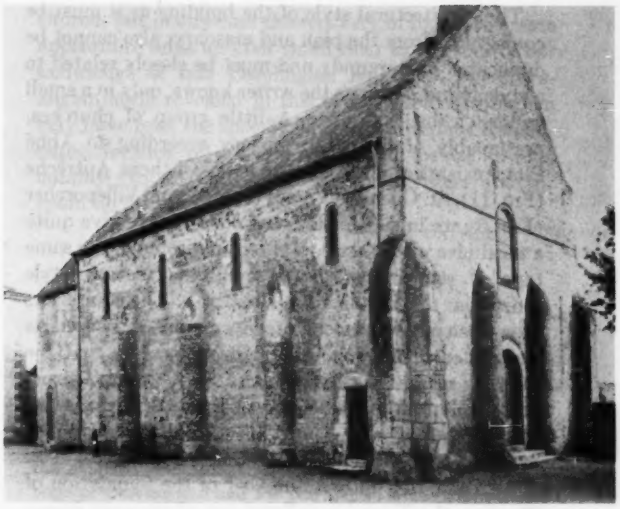

FIG. 11
Autrèche. Façade and north wall of church.

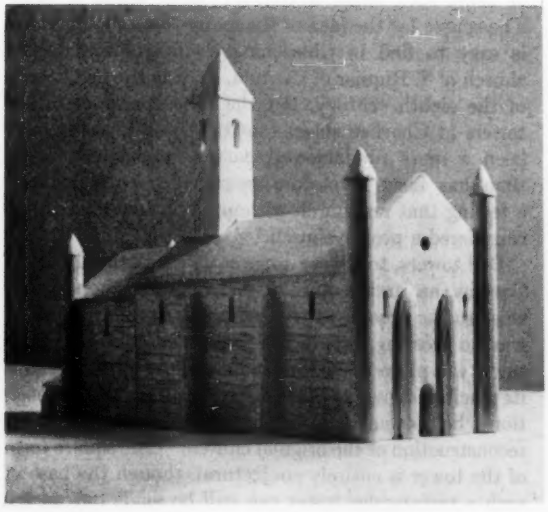

FIG. 12
Charlieu. Carolingian church. Model (Sunderland). View towards façade.

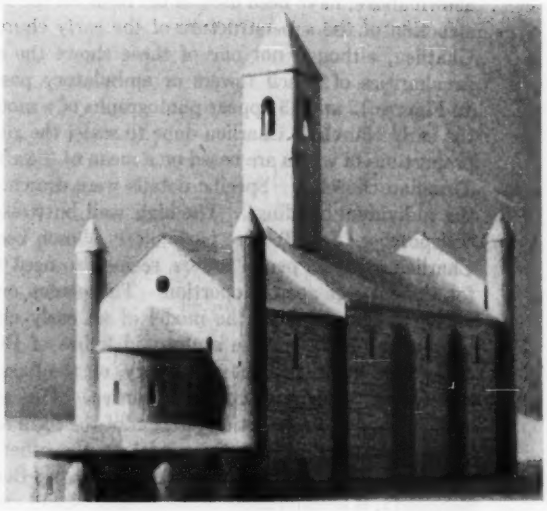

FIG. 13
Charlieu. Carolingian church. Model (Sunderland). View towards apse.

The architectural style of the building as it must be conjectured from the plan and masonry, also cannot be duplicated in Burgundy and must be closely related to a style found, as far as the writer knows, only in a small region of the Touraine. A little group of churches, presumably of the tenth century according to Abbé Plat,[8] exists not far from Amboise. Of them, Autrèche (Fig. 11), St. Ouen-les-Vignes (Fig. 9), and Villeporcher (Fig. 8) are in sufficiently good condition to give quite a good idea of the style. The churches have the same type of semicircular buttresses and masonry style shown in the remains at Charlieu. Their interiors show open naves uninterrupted by any interior supports and roofed in wood. The analogies indicate that the early church at Charlieu was, like them, a simple structure without aisles, roofed in wood, and lighted by narrow single-splayed window openings high up in the walls.

We know that in 872, the year of the foundation of Charlieu, the Touraine suffered one of its most devastating raids by the Normans. The canons of St. Martin of Tours, fleeing the invaders, came, with the body of the Apostle of the Gauls, to Auxerre in northern Burgundy and remained there several years. It is more than likely that not just monks, but that other groups of persons became refugees also. Builders and masons may well have fled to Burgundy for the same reason. The intrusion of a Turonian style into Burgundy in the late ninth century becomes entirely reasonable in the light of the historical situation.

The three churches near Amboise, for the reasons shown above, have been used as the basis for the reconstruction of the superstructure of the early church at Charlieu, although not one of these shows the other peculiarities of pencil towers or ambulatory passage. In Figures 12 and 13 appear photographs of a model of the early church at Charlieu done to scale, the general proportions of which are based on a mean of these three Turonian churches. Specific details were drawn from the individual buildings. The high wall buttresses of Villeporcher (Fig. 8) were particularly chosen because Charlieu, with its pencil towers, seemed to need them for the sake of good proportion. The oculus on the façade is derived from the model of an early church held in the hands of the sculptured figure of Bishop Ratbertus, founder of the monastery, on the façade of the twelfth century porch at Charlieu. The model could very well represent a tradition of the form of the building in question, for the model on the other side of the same lintel, held in the hands of King Boso of Burgundy, is a remarkably accurate short-hand version of the eleventh century church.[9] The other windows on the façade are conjectural. The windows and oculus enframing the apse are based on St. Ouen-les-Vignes (Fig. 9), which is the only church of the three having a wall space around the apse comparable to that which the plan indicates must have existed at Charlieu. The oculi and windows of the main apse are based on Autrèche (Fig. 10), since the apses of the other two churches have been rebuilt.

The ambulatory passage is a separate problem, because none exists in these three little, and probably originally most unimportant, examples of a Carolingian style. The interior floor level is indicated in the ruins of Charlieu, and the lower parts of the walls, in which are the sills of two apparently single-splayed windows, have been preserved. In the reconstruction the passage has been made high enough to have more than just conical terminations of semicircular buttresses around it above the ground level. The passage was certainly half subterranean for the foundations indicate no change in ground level around the church. The height of the passage has been adjusted to keep it within the scale of other known passageways of the period. The embrasures still existing in the passage walls (Fig. 6) give the height of the windows above the ground and their width.

The four pencil towers, made obligatory by the size and shape of the foundations, are purely conjectural in height and terminations. The writer knows of nothing analogous in this period. Those flanking the apse are made lower than those on the façade because their diameter is smaller. All the towers are less than six feet in diameter (two meters) and consequently must have been of solid masonry, since there is no way of using such small towers for either stairs or bells. The source for the idea of the many-towered silhouette is easy to find in Charlemagne's magnificent abbey church of S. Riquier of Centula, built in the last decade of the eighth century, but the false character of the towers at Charlieu shows that the tradition must have been a more fundamental part of Carolingian style than has been heretofore suspected. They indicate a feeling that no church without such towers could be considered a proper church.[10]

Bell towers, too, were apparently an essential part of Carolingian architecture.[11] They were often placed close to the apse or at the crossing. At Charlieu there was no crossing, but in the remodeled church a great tower was placed over the east bay of the nave. Perhaps its placing follows an older disposition. On this supposition a bell tower has been placed in this position in the reconstruction of the original church. The square form of the tower is entirely conjectural, though the base of such a rectangular tower can still be made out on the battered model held in the hands of Ratbertus. The tower may very well have been a staged one, similar to those at S. Riquier, a common form in Carolingian

times. Its height is also entirely conjectural.

Varied sources have thus been used for the details of this restored building. But in spite of this the reconstructed model shows a remarkable stylistic unity and grandeur in its exterior aspect. The interior must have had a raised choir to allow space for the *martyrium* under the apse, for the depth of the ambulatory passage seems to have been the approximate depth to which it is excavated today. Further study and excavations may possibly solve the puzzle of the exact date of the church, but in any case the recovery of its approximate appearance adds another small item to the sum of our knowledge of late Carolingian building. The Carolingian style revealed in this early church at Charlieu may have been the specific basis of the curious Romanesque façades of Poitou with their pencil towers, notably Notre Dame la Grande at Poitiers and St. Jouin de Marne.

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1. Carl Hersey, "The Church of St. Martin at Tours," *Art Bulletin* XXIV, 1942, p. 23 ff.

2. *Ibid*, p. 20 ff.

3. Elizabeth R. Sunderland, "The History and Architecture of the Church of St. Fortunatus at Charlieu in Burgundy," *Art Bulletin*, XXI, 1939, pp. 62-88.

4. Martin Marrier and André Duchèsne, *Bibliotheca Cluniacensis*, Paris, 1614, 'Notae ad vitam S. Odilonis,' col. 73; Jacques Severt, *Chronologia historica successionis hierarchicae archiantistitum Lugdunensis archiepiscopatus*, 2nd ed., Lyons, 1628, p. 41, p. 186; Jean Mabillon, *Annales ordinis S. Benedicti*, Lucca, 1739-1745, III, pp. 171, 178,

5. Mabillon, *Op. cit.*, p. 171.

6. Elizabeth R. Sunderland, *Op. cit.*, pp. 63-64.

7. Abbé Gabriel Plat, *L'art de bâtir en France des Romains à l'an 1100*, Paris, 1939.

8. *Ibid*, p. 83.

9. Elizabeth R. Sunderland, *Op. cit.*, p. 79.

10. The question can arise as to whether these slender towers were instead buttresses terminating below the roof line. The author, however, has been unable to find any example of such buttresses, encircling the angles of façade or apse walls, among the churches constructed between the commencement of the reign of Charlemagne and the year one thousand. The angles of the façade of Villeporcher show round buttresses used in the usual manner of rectangular buttresses in the middle ages. Two buttresses are used, one on the façade wall and one on the side wall, meeting at right angles. On the other hand, round towers which flank the angles of façade and apse walls appear several times among the churches of the period between 771 and 1000 A. D. It seems reasonable, then, to suppose that four decorative pencil towers, not buttresses, existed at Charlieu.

11. Jean Hubert, *L'Art Pré-roman*, Paris, 1938, pp. 81-83.

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In this unusual essay he looks for the character of Vignola through his career and also helps thereby to give an arresting insight into the mid-sixteenth century in general.

VIGNOLA'S CHARACTER AND ACHIEVEMENT

Giacomo Barozzi da Vignola was, after Michelangelo, the most famous Roman builder of the later Renaissance. Architect-in-charge at St. Peter's, architect to the Sacred College,[1] architect of the Roman people,[2] architect of Alessandro Farnese "the great cardinal," asked to be court architect for Philip II of Spain,[3] at the time of his death Vignola was probably the most influential member of his profession in the world. The artists of Rome flocked to his funeral. He was interred with all possible honors in the Pantheon, and afterwards somebody remarked, "it seemed like the will of God that the greatest architect of the day should be buried in the greatest building in the world."[4]

Vignola's was a dual achievement. His contemporaries honored him for his masterpiece, the Farnese Palace at Caprarola, and to a lesser degree for the Villa of Julius III. But his fame did not diminish with time, as these buildings receded from public consciousness. Later generations respected him for his influence.[5] The *Regola delli Cinque Ordini d'Architettura*, "the alphabet of architects," is one of the most important textbooks ever written. The *Gesu* in Rome has been the inspiration of countless Catholic churches throughout the world.

Yet Vignola, the outstanding Roman architect between Michelangelo and Bernini, is the least understood of the great Italian builders. There are of course good reasons for such a paradoxical situation. His is a singularly elusive character. He was not colorful, and in this he was very much a child of his time. Throughout Europe the first half of the sixteenth century was an age of flamboyant personalities, personalities so vivid that they have remained clear and fascinating to all subsequent ages even when, as with a Wolsey or a Peruzzi, the men left little lasting record behind. In the second half of the century personality was deliberately subordinated to achievement. Loyola would not even permit his portrait to be painted. Beside a Francis I or a Julius II; Gregory XIII, Henry II of France, Philip II of Spain and Burleigh seem colorless, as Montaigne seems colorless beside Rabelais. But these disciplined, dogged, earnest men launched institutions and laid down policies that are still potent in the world today.

It is to this group of stern, grisaille figures that Vignola belongs. Within his limited sphere his achievement is almost as hard to define as his personality. Beyond the book and the three major buildings, one can hardly point to anything except a handful of minor works—incomplete structures with unfortunate histories like the Farnese Palace in Piacenza; puzzling and ill-documented buildings like the Palazzo Bocchi in Bologna or Sta. Maria dell'Orto in Rome; unimportant designs like the Castellina at Norcia or some of the decorations in the Palazzo Farnese in Rome. Nor does the study of the major structures contribute anything at the start except further confusion. For Vignola was not completely responsible for any important building. If he started a great structure like the *Gesù*, he did not live to see it finished. If he finished a great structure like Caprarola, it had been well started by someone else. And if a great building like the Villa Giulia was begun and terminated within the limits of his own lifetime, all his work on it was done in collaboration with other architects. Even by the time of his death people were confused about Vignola's achievement.[6] Small wonder scholars are perplexed today.

The explanation of their confusion and our perplexity is found partly in the character of the age, but primarily in the character of the artist. A large number of the architectural projects under way in central Italy during Vignola's lifetime had been started early in the century. At the opening of the 1500's, men swept aside the medieval past and projected colossal new buildings with enthusiasm. Then came a series of wars. Thus the completion of schemes already started but devastated or delayed by war was a prime archi-

tectural responsibility between 1525 and 1575. Moreover, in contrast to their fathers, the men of the mid-century seem to have had a predilection for remodeling as such. Cosimo I of Tuscany was in no way committed by the architectural ambitions of his predecessors. Yet he chose to rebuild the Pitti and the Palazzo Vecchio, rather than erect for himself a new palace. All those projects, whether of completion or of rebuilding, involved at the very least collaboration with the past.

A second factor making for confusion was a change in the quality of patronage. Julius II picked his artists and backed them, even when he quarreled with them. The future Paul III, while still a cardinal, chose the thirty-year-old Sangallo to be his architect, and supported him without hesitation to the very end of a long life. He thought nothing of convincing Leo X that this same stripling should be appointed architect of St. Peter's.[7] But the patrons of the next generation allowed themselves to be plagued by alternatives. Julius III, when planning his villa, vacillated between Michelangelo, Vasari, Ammannati and Vignola. Cosimo I, with many gifted artists in his entourage, permitted boudoir politics to win for Ammannati some of the finest commissions, and allowed Bandinelli to triumph over Cellini.[8] The Duchess of Parma sought Vignola's advice on Paciotto's project for Piacenza, and then turned to Paciotto for advice on Vignola.[9] Cardinal Alessandro Farnese employed Vignola for fifteen years, and still did not trust him to design the façade of the *Gesù*. There were few patrons in central Italy during the middle of the sixteenth century who backed a single architect of their choice. This made for yet further collaboration, and the result was still more confusion of intent in the final work of art.

Vignola shared the necessity of reaping where he had not sown with other artists of his generation. He suffered as they did from the indecision of his employers. Yet the decisive factor in explaining the hazy image of his achievement which has survived to our day is Vignola's personality. Unlike the younger Sangallo, unlike Ligorio, Vasari, Ammannati, or Alessi, he never fully adapted himself to live the sort of life which the times demanded of an outstanding architect.

Before the sack of Rome, central Italian architects generally worked for long periods in a single community. More and more after 1527 they travelled about, seeking employment where they could find it, and even undertaking simultaneously various large commissions in widely separated places. By the middle of the century almost every important architect except Michelangelo was a large-scale entrepreneur. Such a career called for a high degree of administrative skill, the capacity to set down one's ideas in a form which others could execute, the ability to count on the allegiance of one's subordinates, and to command the respect of one's equals. Granted these gifts, there was hardly any limit to the material and social success which might be achieved. Bramante himself at the height of his fame could not have afforded the palace which Antonio da Sangallo the younger was able to buy in 1546. Not even Raphael mingled with the great on terms of easier familiarity than Vasari.

Unfortunately, these were just the gifts Vignola lacked. A poor man of business, he left a famous name but no fortune.[10] A poor judge of character, he surrounded himself with members of his own family, and continued to give them responsibility even after they had proved incompetent. His brother served as master-mason at Caprarola, and his son-in-law painted murals there.[11] Hyacinth Vignola, a vain, volatile and incapable son, was put in charge at Piacenza. After he had failed miserably there, he was set up once more, this time as his father's chief assistant in Rome.[12]

Yet the blame did not lie entirely with the subordinates. It must have been hard to work for Vignola. He did not give his assistants general drawings and allow them to work out the details. Under ideal circumstances he liked to design buildings down to the last moulding all by himself, "considering all the minutiae with exquisite diligence."[13] In practice, such a preference meant that he solved most problems as they arose, not settling the design of any part finally until that part was about to be built. Vignola seldom met with ideal circumstances, however. Generally he could not supervise his buildings month by month from start to finish. He had to leave the direction to assistants whom he supplied with fairly detailed models and drawings prepared in advance. Vignola liked to think that these models and drawings were so complete that the building could be "brought to final perfection without difficulty" just by following the indications he gave, yet, in fact, the models were sometimes so rough and the drawings so obscure that even trusted subordinates could not interpret them.[14] Before such drawings could be shown to clients, fair copies had to be made, and it was best if the architect was on hand to explain his own intentions.[15] In short, Vignola found it hard to delegate authority. What the results of this failing were in practice is clear from the frequent disagreements reported in the documents, and becomes clearer yet after one glance at the botched façade of Sta. Maria dell'Orto.[16]

If Vignola failed to obtain effective cooperation from his subordinates, it is hardly surprising that he did not always enjoy the respect of the men who had to work with him as colleagues. It was a contentious

age, and Vignola did his fair share of quarreling. Kindly and generous in his relations to workmen,[17] he was uncompromising, severe and supercilious towards his fellow professionals. At San Petronio he argued hotly with Baronino; at Piacenza he disagreed with Paciotto and then with Boselli; at Caprarola, Paciotto and he disagreed once again.[18] Indeed it seems as if the only relation Vignola could have with other professionals was violent disagreement. No other architect, living or dead, is favorably mentioned in either of his books or in all his letters.[19] When asked to give official written opinions of other men's designs, Vignola characterizes one as "monstrous, making no sense," while of another he says "this is an insupportable error; it fits none of the orders; it is wholly beside the point; it is completely unreasonable and it is utterly beastly to look at."[20] To collaborate with such unbridled intolerance would have tried the humility of a saint; Vignola's colleagues were not saints.

But what differentiated Vignola from his contemporaries was the extent to which he was frustrated by quarrels. In many cases his opponents were men of little consequence—Ranuzzi, an ignorant provincial; Baronino, a simple contractor; Boselli, the keeper of the ducal purse. Yet time and again these inconsequential men who knew little of the subject brought the great architect to a standstill. Indeed, Vignola's professional life is a tragic repetition of one episode. He would be hired under the best auspices, and enjoy for a time the full backing of his patrons. Then, as he wrangled with his colleagues he would gradually lose support. Finally the patron, tired of it all, would turn to an outsider for the solution. So the building committee at San Petronio turned to Giulio Romano and Cristoforo Lombardo, so Margaret of Parma turned back to Paciotto; so, at the last, even Cardinal Farnese turned to Alessi.[21]

But Vignola's stormy contacts with other professional men were only part of the story. His relations with his employers were hardly more fortunate. In a time of famine, Ammannati was supplied with food and drink by the Pope himself.[22] Vignola, by contrast, had to squabble with some obscure mountain villagers, who after a long delay paid him for designing their church with a few barrels of rancid oil.[23] When the showdown came, all too often Vignola failed to get his way. He appears to have been unable to state his case convincingly in words, to present it clearly on paper, or to charm those in authority so that they yielded without question. For Vignola lacked all the graces of a courtier. Claiming gentlemanly birth, boastful of his Bolognese citizenship, displaying his own coat of arms, Vignola was not only tactless, he even found it hard to be properly deferential.[24] On one occasion, to the general embarrassment, he flatly contradicted the Modenese ambassador in front of the Pope. This took place during an informal audience after a papal dinner party when the Pope and the ambassador were honoring the architect by admiring his designs for the Escorial.[25] Proud, reserved, inflexible and humorless, he was not the man to write his patron charming and informative letters, at once intimate and flattering, such as Ammannati penned. Nor did his intellect attract attention. His interests were limited. A painter, who failed and gave up serious painting; an expert in perspective who was yet a poor draughtsman; a caster of bronze reproductions of ancient statues who seems to have had little taste for sculpture, Vignola's writings are innocent of literary grace. He was not a man of learning and appears uninterested in philosophy. In sum, Vignola was by temperament a master craftsman in an age when other major artists strove to be universal geniuses.

Yet such a temperament had its advantages at such a time. If his lack of social skill thwarted Vignola in some jobs and lost him others, his hard-headed approach and acknowledged practical competence always secured him new opportunities. His position as the outstanding professional in a circle of gifted amateurs won him the immediate confidence of patrons.[26] Nor did his advantages cease when he had obtained the commission. Master of the more pedestrian aspects of his subject, a skillful engineer, a sound builder, a thoughtful planner, meticulous and sensitive in handling architectural detail, Vignola made these diverse skills reinforce his genius as a designer. Thus his buildings are never mere façades, or clever but partial solutions; rather they are the completely thought-out answer to the problem given.

Caprarola was such a complete answer, and contemporaries, recognizing this, admired the building. Vasari called it a "rich and even regal villa . . . noble and grand." Montaigne, not a man given to easy enthusiasms, forgot his gallstones long enough to declare of the palace, "I have seen none in Italy that may be compared with it." The distinguished mathematician, Ignazio Danti, rhapsodizes: "All who see it wonder, and acknowledge that it is more of a work of art, more complete in its decoration, and more commodious than any other palace in the world."[27]

But while Caprarola was great in its own day, it was great in the fashion of its day. As T. S. Eliot has recently pointed out, a classic age achieves perfection within a common style. The age which follows may exhibit both monotony and eccentricity. "Monotony because the resources of the language have, for the time at least, been exhausted, and eccentricity because originality comes to be more valued than correct-

ness."[28] As with language, so with buildings. In Italy, the first quarter of the sixteenth century was just such a classic age. Of the period which followed, of his own times, Serlio justly observed, "at this day men covet after novelties."[29] Caprarola, too, was a novelty. Coming as it did during the afterglow of the High Renaissance, it was inevitably eccentric. Like the Uffizi, like the Villa d'Este, like the façade of Sta. Maria presso San Celso it was an extraodinary expression of personal style. Like them it had almost no imitators.

It is significant that Vignola designed Caprarola in mid-career. Nothing he did thereafter made such a great impression upon his own generation. Indeed, some of his fellow architects thought that he had spent himself, and in his old age was hobbled by his own rules for the orders. Alessi, in submitting his designs for the *Gesù* façade remarked patronizingly, "at least they will serve as a provocation, arousing those worthy Roman architects to some sort of new idea."[30] Actually, Vignola during his last years was concentrating upon another kind of achievement, an achievement which did rise above his own day, and which for that very reason successful contemporary architects could not understand.

Alessi and his fellows prided themselves on their "new fantasies . . . which have more of the grotesque than of reason or rule in their ornamentation."[31] But however novel their inventions, they remained bound by a conception of architecture as neutral surfaces on which voids and linear and plastic elements set up patterns of continuous, restless movement.[32] Vignola's middle style had certain analogies to this, except that his patterns were static. The interest in such architecture was its ingenuity, its intensity or its eccentricity. It was an architecture of conceits, and as such it could never be widely or permanently popular. Vignola abandoned this architecture at the end of his life because he wished to create a truly popular style, one that could provide a common basis for later architectural developments.

Such a program had a negative side; it was essentially unromantic. Vignola had to forswear both the romanticism of revival and the romanticism of revolt. He could not, like Bramante and his school, dream of recreating the glories of ancient Rome. He could not, like Michelangelo and his followers, seek to evolve "a more original manner than any other master at any time, whether ancient or modern."[33] But there was a positive side as well, and this had two principal requirements. To be popular the style must be familiar. To be fertile, it must reckon with those major aesthetic discoveries whose possibilities had not yet been exhausted.

Familiarity meant identification with the tradition of Renaissance architecture. Vignola appears to have been the first architect to realize that Renaissance architecture did constitute a tradition and that this tradition was dying under the impact of the Michelangelesque revolt. His task was to infuse the tradition with new life. This meant the employment of well-known forms. Fortunately Vignola was not inventive in little ways, and from the start his style had been eclectic. In his first period he plagiarized motifs from Bramante's followers, as at Sant' Andrea and the Fontana Pubblica. In his second he continues many of the older motifs, but the new ones he culls are taken almost entirely from Bramante himself. Caprarola is a pastiche of Bramantesque ideas. The forms are not faithfully copied however, and are adapted to Vignola's personal manner. In his last period, he modified still more the forms he had borrowed in his youth and made his own by repetition. But now he also takes a further step, adopting complete schemes from the past. The plan and the interior of the *Gesù* belong to a group Alberti had initiated. The type of its facade can be traced back through Guidetti, Sangallo and Michelangelo at least to Leonardo. The Tempietti on St. Peter's derive from the work of the Sangallegchi.[34] Thus Vignola's late style was familiar and traditional, root and branch.

Yet the borrowing, whether of schemes or of motifs, was highly selective. He used but a small portion of the rich language available to him, and that little he used again and again. Almost every building he designed displays either a rusticated doorway, a central arch framed by engaged orders or the Roman arch order in pilasters; but many equally familiar and popular motifs he rejects. Nowhere in his later buildings does a free-standing colonnade appear, nowhere a "Palladian" motif, or a window framed with orders. None of his façades are articulated with buttress-like strips. In none do columns carry arches. The criterion which determined what would be taken and what left was the second factor of Vignola's late style, the requirement of fertility.

What were some of the aesthetic discoveries whose possibilities were not yet exhausted? Three of the most important were the concept of building as a series of independent planes, the ideal of a dynamic architecture and the recognition that essential ingredients of such an architecture might be mass and space. Vignola did not originate any of these ideas, but his achievement was to synthesize them, and thereby to revolutionize the fundamental architectural relationships, the relationships of mass and plane, plane and space, articulation and surface. And in his choice of traditional forms and formulae he confined himself to those which

he could fit into his new synthesis. These he used with restraint and strictness. Thus his revolutionary late style was the more acceptable to following generations because it did not depend upon an excessively personal grammar and vocabulary. Where Ammannati, Alessi, Ligorio and Vasari were coiners of brilliant architectural epigrams, purveyors of novelties, Vignola expressed profoundly new insights by the use he made of a few *clichés*.

Forming as he does a funnel through which the Renaissance tradition passed into the Baroque, Vignola is a unique figure in the history of Italian architecture. But he is at the same time an example of a familiar creative type, and parallels can be found in other fields and at other times. He may be compared for example to Augustus in politics or to Dryden in the evolution of English poetry.[35]

To have created at Caprarola one of the acknowledged masterpieces of architecture, to have evolved out of the chaos and wealth of late Renaissance building a style which was widely accepted and could be developed, that is Vignola's achievement.

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1. H. Egger in *Palladio*, vol. II, 1937.
2. G. Baglione, *Le Vite*, etc. Naples, 1733, p. 7.
3. E. Danti, *Le Due Regole della Prospettiva Pratica di M. Iacomo Barozzi da Vignola*, "Vita di M. Iacomo Barozzi da Vignola," Roma, 1583.
4. *Ibid.*
5. Contrast the estimates of the relative importance of Caprarola and the *Regola* as given by Vasari and Baglione.
6. K. Frey in *Der literarische Nachlass Giorgio Vasaris*, Muenchen, 1923, I, 351, points out that Vasari's repeated emphasis on the part he played in designing the Villa Giulia is probably his answer to a contemporary tendency to attribute the whole of the building to Vignola.
7. F. de Navenne, "Les Origines du Palais Farnèse à Rome," *Revue des Deux Mondes*, 1re periode, 131, Sept.-Oct., 1895.
8. F. Kriegbaum, "Marmi di Benvenuto Cellini ritrovato," *L'Arte*, 11, 1940, pp.15ff.
9. A. Ronchini, "I Due Vignola," *Atti e Memorie delle R. R. Deputazioni di Storia Patria der le Provinci Parmensi e Modensi*, III, 1865.
10. Danti, *op. cit.*
11. G. Canevazzi, "Intorno a Jacopo e Giacento Barozzi," in *Memorie e studi intorno a Jacopo Barozzi*, publicational IV centenario della nascita, Vignola, 1908, p. 322.
12. *Ibid.*
13. Danti, *op. cit.* and Ronchini, *op. cit.*
14. *Ibid.*
15. G. Giovannoni, "Giacopo Barozzi da Vignola," in *Saggi sulla Architettura del Rinascimento*, 2nd edition, Milano, 1935, 14 and document IV, Canevazzi, *op. cit.* p. 335.
16. Giovannoni, "Chiese della seconda metà del cinquecento in Rome, *op. cit.*, pp. 200ff.
17. W. Lotz, *Vignola-Studien*, Wurzburg, 1939, p. 82.
18. G. Zucchini, "Documenti inediti per la storia del S. Petronio di Bologna, "in *Miscellanea di Storia dell'Arte in Onore di Igino Benvenuto Supino*, Firenze, 1933: Ronchini, *op. cit.* Giovannoni, "Vignola" pp. 261-262 and Bertolotti, *Bartolomeo Baronino da Casalmonferrato*, Casale, 1875, p. 29.
19. A few possible exceptions merely make the matter even more clear. In discussing the façade of San Petronio he does speak with respect of the original designer; but does not mention his name. Later he mentions Bramante, and elsewhere his master Peruzzi, in neither case either respectfully or otherwise. This is in sharp contrast to Serlio. The final paragraph of Vignola's letter to Martino Bassi is, of course, full of compliments. Since he did not know Bassi or his work, this may be dismissed as pure flattery. See Zuchini, *op. cit.*, p. 207, G. Gaye, *Carteggio inedito d'Artisti*, Firenze, 1840, p. 261., G. Bottari, *Raccolta di Lettere*, Milano, 1822, I, p. 500, and Danti, *op. cit.*
20. Bottari, *op. cit.*, p. 500. Zuchini, *op. cit.*, p. 297.
21. A. Ronchini, "La Chiesa del Gesù," *Atti a Memorie*, etc., VII, 1874, pp. 19ff.
22. L. Biagi, "Di Bartolommeo Ammannati e di alcune sue opere," *L'Arte*, XXVI, 1923, pp. 49ff.
23. G. Fregni, *In Ricordo di Jacopo Barozzi detto il Vignola*, Modena, 1907, p. 21.
24. Danti, *op. cit.*, and Canevazzi, *op. cit.*, p. 527.
25. *Ibid.*, p. 345.
26. This explains why he was upon occasion given responsibilities which his previous accomplishments did not justify; for example his appointment, on the recommendation of Paul III, as architect of San Petronio.
27. G. Vasari, *Lives of the most eminent painters, sculptors and architects*, translated by Gaston du C. de Vere, London, 1912-1914, VI, pp. 237ff. M. de Montaigne, *The Diary of Montaigne's Journey into Italy in 1580 and 1581*, translated by E. J. Trechmann, London, 1929, and Danti *op. cit.*
28. T. S. Eliot, *What is a Classic*, London, 1944, p. 14.
29. S. Serlio, *The fourth Booke, Rules for Masonry*, etc., London, 1611, Chapter VI, folio 24.
30. Ronchini, "Gesù" *op. cit.*, p. 22.
31. Vasari-de Vere, *op. cit.* IX, p. 44.
32. I am greatly indebted in this analysis to R. Wittkower's pioneering remarks on "Michelangelo's Biblioteca Laurenziana," *The Art Bulletin*, XVI, 1934, pp. 205ff.
33. Vasari-de Vere, *op. cit.*, IX, p. 44.
34. J. Coolidge, "Vignola, and the Little Domes of St. Peter's," *Marsyas*, II, New York, 1942.
35. "As a poet, Dryden came to resolve the contradictions of the previous period, and select from it the styles which were capable of development . . . The English language as left by Shakespeare, and within much narrower limits, by Milton, was a language like the club of Hercules, which no lesser strength could wield . . . It was Dryden, more than any other individual who formed a language possible for mediocrity, and yet possible for later great writers to do great things with." T. S. Eliot, *John Dryden, the Poet, the Dramatist, the Critic*, New York, Terence and Elsa Holliday, 1932, pp. 9 and 22.

W. KNIGHT STURGES, A. I. A., is Senior Reference Librarian at Avery Library, Columbia University. *This article investigates the remarkable confluence of the ideas of Norman Shaw with reviving Colonialism in this country during the 1870's and '80's.*

THE LONG SHADOW OF NORMAN SHAW

This study is the outgrowth of a project, still in its infancy, to include nineteenth century architectural periodicals in the Avery periodical index; and while the story of Norman Shaw has been well and sufficiently told by others better equipped than myself, it is my belief that no one has fully appreciated the widespread influence which he had in the America of the 1870's and '80's. Needless to say, this influence was brought to bear largely through journals such as the *American Architect and Building News*, whose pages reveal the curious manner by which architects, trained to visualize masses in a purely pictorial fashion, sought to incorporate a revival of "free" classicism into their way of design.

Norman Shaw himself did just this in England, and in so doing created what has been termed ever since, with vague contempt, the Queen Anne revival. Shaw, born in 1831, was the contemporary of Philip Webb, who built the Red House for William Morris in 1859. Unlike Webb, Shaw, almost to the end of his long life, remained a conscious eclectic. However, through sheer ability, Shaw became an innovator and not a follower. His private houses, in particular, were the pace setters of their day; but it was in an office building, unhappily destroyed in the Blitz, called New Zealand Chambers, that Shaw broke from the Gothic revival and its Elizabethan and Tudor variants in which both he and Webb had received their training in Street's office.

Shaw's Queen Anne constitutes not only a break with the Gothic revival. It represents, as Dudley Habron has said, the first crack in the solid front of Victorianism,[1] bringing as it did a new intention to the architecture of this era. Unlike the Greek and Gothic revivals which preceded it, this revival was not representative of any deep national aspiration, nor was it popularized by any alliance with the forces of liberalism or conservatism. No Ruskin came to the defense of this style whose antecedents were so little known, indeed, that the very name, "Queen Anne," is a misnomer. For the monumental style which we associate with the name of Wren and his school did not achieve current acceptance until the early years of this century, when the style we refer to as "Queen Anne" was already in the limbo of discarded fashions. Nonetheless, in the building, in 1872, of New Zealand Chambers, Shaw initiated that conscious return to classical precedents which characterized the architecture of the latter portion of the nineteenth century, that classicism which until recently has been the bane of contemporary architecture, but which architectural historians must begin to view with something like detachment if they are ever to come to an understanding of the late nineteenth and early twentieth centuries.

Aside from that confusion of sources and intentions which attends the birth of the Queen Anne revival, let us briefly review its more important characteristics. It was not a conscious effort to revive a monumental style, but an attempt to adapt freely elements borrowed from a vernacular architecture. This vernacular happened to be that of late seventeenth century Stuart England. Most of its features are embodied in that well-known architectural hybrid, the Sparrowe's House at Ipswich, which combined East Anglian pargeting, gabled roofing, and a curious bay window subdivided into a small scale Palladian motive. The use of this bay is practically the hallmark of the Queen Anne revival. In addition to the use of this hallmark, Shaw and his followers sought to combine Queen Anne motives with late Gothic effects of mass, and in so doing popularized the use of engaged turrets and great gabled roofs more Germanic than English in character. At its best Queen Anne work achieved a boldness and massiveness we may still enjoy today. Sir Edmund Gosse, speaking of a house of this character, described it as having "a sort of vastness as if it had grown like a mountain." At its worst, Queen Anne work is characterized by that confusion of minor elements which is present in the great body of nineteenth century architecture. Even in its poorest exemplars, however, it seems to acquire a new sense of

domestic scale. The *London Globe* was disposed to favor its forms "'not because they are picturesque—but emphatically because they are suggestive of comfort.'"[2]

From the comparatively humble beginning made in New Zealand Chambers, Shaw's influence spread to our shores with uncanny rapidity, affecting even Richardson in a minor way, and playing a decisive role in the formation of the early designs of McKim, Mead and White. In connection with this influence it is important to note that Shaw's work began to be published in this country about 1876. Americans have always been adept at national self-examination and it is not unnatural that this promising national trait should have received an added impetus in this, our centennial year. While the Queen Anne revival was first received in this country uncritically as just another picturesque adaptation—this time of classical motives handled in as free and medieval a manner as possible—it was not long before its relation to what was then termed with friendly condescension our "old Colonial work" was perceived. Hitherto, except for references made by Arthur Gilman in his Lowell Lectures of 1844, little interest had been shown in America's architectural past.[3] The motivating forces of architecture, whether Roman, Greek, Gothic, or Italian, had been drawn from alien sources. Now for the first time there came into existence in America the belief on the part of some that the national architectural heritage was something worth looking into, something worthy of preservation, and indeed the logical mode of escape from what was already perceived to be a round of meaningless eclecticism. As Pevsner has pointed out with respect to the same movement in England: ". . .what was now the source of inspiration was so simple, reasonable, undated a style, so much a 'no style in particular'. . . that, short of a complete break with the past, it represented the most rational solution to nineteenth century needs that had been found."[4]

Thus, in 1877, the year which also saw the "celebrated" trip of Messrs. McKim, Mead, Bigelow, and White through New England, a brief article, "Georgian Houses of New England," posed a familiar question which has often since been raised in one form or another: "With our centennial year have we not discovered that we too have a past worthy of study?" It is interesting that the author, who signs himself "Georgian," tempers his predilection with the following:

> The later and richer mansions [of colonial New England] were large and square, and with so little detail outside that one built now would, without the glamour of age, seem unpleasantly angular and box like. But this is by no means a characteristic of all colonial work. The old Fairbanks house at Dedham, partly early with high-pitched roof and partly later with gambrel roof, forms a most picturesque pile; and so does the scattered house at Little Harbor, with gables at different heights, and floors at different levels; while the council-chamber wing runs off at an uncalled-for angle with the main building, that would delight Mr. Norman Shaw.[5]

In addition to giving America's architects one more style to copy, Shaw's influence struck another spark of a more important kind. His example fostered a kind of confidence which had hitherto been lacking, a confidence in and an awareness of the American past. It cannot be said that this confidence was wide-spread or deep-rooted; yet it was a straw in the wind which was to point the future direction of American architecture after what one might call the first phase of Richardson's influence had spent itself. As early as 1878, Arthur Little, a young Boston architect still in his twenties, published his sketches entitled, *Early New England Interiors*.[6] Chiefly interesting for their subject matter, their poor draughtsmanship reveals an almost complete lack of understanding of the underlying forms he was attempting to portray. Shortly thereafter, Frank Wallis, Glenn Brown, and others were to undertake more careful and detailed studies of the same character. However, as Hitchcock has pointed out, it was not until 1892 that Corner and Soderholtz in their *Examples of Domestic Colonial Architecture in Maryland and Virginia* produced the first book entirely devoted to the photographic documentation of Colonial architecture.[7]

In summing up the Queen Anne revival of the seventies let me quote from a paper read at the April, 1877 meeting of the Boston Society of Architects.

> I do not wish to be the champion of all the affectations of the Queen Anne school of design. I fully admit there are such, but I cannot agree with what I understood as the opinions expressed at the last meeting of the Society of Architects.
>
> It then seemed to be held as a movement of no account—a whim of a few people, and one that we need not interest ourselves about. Now it seems to me, on the contrary, a very decided movement and one of great importance to us. As a fact, whether fortunately so or not, what goes on in England in an art, as in many other matters, is to a certain extent quickly reflected here; and it is well from this point of view to follow closely the Queen Anne movement.
>
> Of all this work the distinctive feature is beyond all its pleasant, homely, hospitable warm color, that should be backed up by the green of old English trees. This is what gives it its chief attraction, and what unfortunately does not reach our shores in the pages of *Architect* or *Building News*. Then its careful brickwork is to be noted, and the extraordinary affectation of cut brick; mouldings, carvings, garlands, all

being cut in the bricks after they have been set in the wall. This is accounted much sharper than terra-cotta, and in fact the only worthy material in which to carve the mysterious pot of sunflowers. Again, its white frames and sashes near the face, giving deep interior recesses, its turned wooden posts, and any eccentricity in general design that one can suppose would have occurred to designers one hundred and fifty or two hundred years ago. . .

Such is the hold that this spirit of design has obtained in England. In our judgment we greatly err in calling it 'Queen Anne,' for that after all is but one little phase of a strong reaction. It certainly is not strictly Queen Anne, although some designers affect that period; nor Stuart, though as a reaction some of the furniture men have toned their enthusiasm for bedposts and broomsticks with a study of the orders; nor is there very much hope of a return to Italian or any orderly methods in a style whose very freedom is the making of a great artist. Perhaps Thackeray had as much to do with it as Morris or Shaw or the furniture men. But no one can shut their eyes to it in London. Outside its red bricks are hid under no bushel, but bravely stare out in the midst of a row of 'compo' fronts; while inside if not master it has sensibly influenced almost every thing. . .

Thus I have meant to show that this movement is very strong and well established in England, and consequently of importance to our designers; that bric-a-brac, and Japan, and India, and classic mythology, and odds and ends, inspire it quite as much as Queen Anne; and that after all it is a curious support to our American eclectic notions. But lastly to those who do believe in revivals, 'Queen Anne' is a very fit importation into our offices. There is no revival so little of an affection on our soil, as that of the beautiful work of Colonial days. Its quiet dignity and quaintness, its cosiness and elegance, always attract us. It is our legitimate field for imitation, and we have much of it to study right in our own neighborhood . . [8]

Robert Swain Peabody (1845-1917), the author of these lines, was senior member of the rising firm of Peabody and Stearns. Two years after this paper was delivered, his firm was to win the competition for the Union League Club of New York with a design strangely reminiscent of Shaw (Fig. 1). It is interesting to note that among the competitors were such rising stars as McKim, who submitted an Italianate design prophetic of things to come; Richard Morris Hunt, whose néo-grec façades were reminiscent of J. L. Duc and Labrouste; and such established Gothicists as James Renwick. Modified in execution by the elimination of the cupola motive over the main entrance, Peabody and Stearns' landmark stood at the northeast corner of Fifth Avenue and Thirty-ninth Street until its demolition in 1932. Together with the Hemenway Gymnasium at Harvard, this Queen Anne revival building was outstanding as a bold and vigorous design in a period when the search for form had practically been lost sight of in an architecture whose chief characteristic was a multiplicity of detail devoid of any adequate idea of composition to give it meaning.

As was to be expected, the Queen Anne influence in America took on a variety of forms. In the monumental buildings of Peabody and Stearns we see a fairly close adherence to the spirit of Shaw's work, although there is no question here of direct imitation. As is so often the case, work done in a lighter and less serious vein is more truly creative. Such an example is William H. Dabney's (1858-1897) "Redcote" of 1882 (Fig. 2). It is altogether surprising in its simplicity of plan, its emphasis on horizontality, and the absence of engaged turrets or other transitional elements which all too often softened the masses of Victorian buildings into shapelessness.[9] In this little house, which is more Queen Anne than Colonial, we see Queen Anne at the vernacular level, a skillfully composed, intensely personal design of a young architect of twenty-seven. Dabney, who wrote on the fireproofing of industrial buildings, is chiefly remembered, however, as the architect of Trinity Court, an apartment group near the Back Bay Station in Boston. He died at the untimely age of forty-two.

In the work of Arthur Little (1852-1925), of which Grasshead House at Swampscott, 1882 (Fig. 3), is an early example, we see an attempt to revive a specifically Colonial rather than Queen Anne manner. Little's poor draughtsmanship here, as in his book on early New England interiors, is responsible for the depressing quality of his presentation. However the design, in spite of its vagaries, is of interest. The main mass with its central chimney reflects New England precedents. The attempt to use an unequal gable as a transitional link, while hardly successful, is unusual, and the rustic porch columns have no affinity with the early architecture of New England, but rather with the early nineteenth century of Downing and Davis. The octagonal pavilion, reminiscent of a lighthouse, is the one original feature of the design. Partly disengaged from the mass of the house, it brings to the entire plan a movement and freedom as little characteristic of Victorianism as it is of early New England.

Among architects who sought to follow a local lead and improve on it, the most outstanding were without doubt William Ralph Emerson (1833-1918) and John Calvin Stevens (1856-1940). Both will be chiefly remembered for the summer houses which they built on the New England coast. Emerson's early work strongly reflects Shaw's influence. However, it was

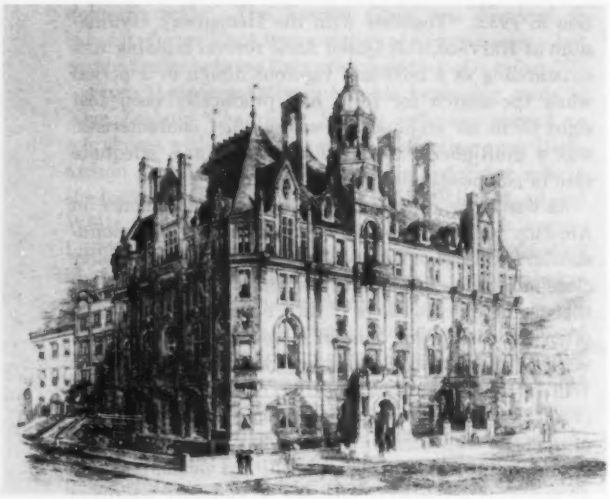

FIG. 1
Winning Design for the Union League Club of New York. Peabody and Stearns, 1879.

FIG. 2
Redcote, York Harbor, Maine.
William H. Dabney, 1882

FIG. 3
Grasshead House, Swampscott, Massachusetts. Arthur Little, 1882.

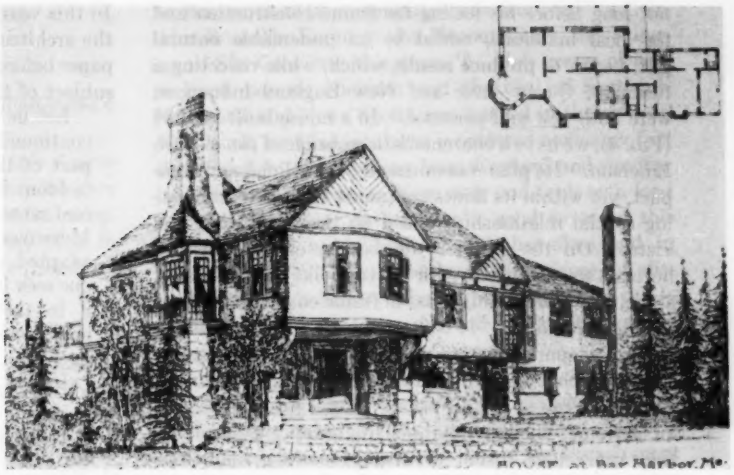

FIG. 4
House at Bar Harbor, Maine.
William R. Emerson, 1884.

FIG. 5
Study for a House at Brookline, Massachusetts.
W. G. Preston. 1885.

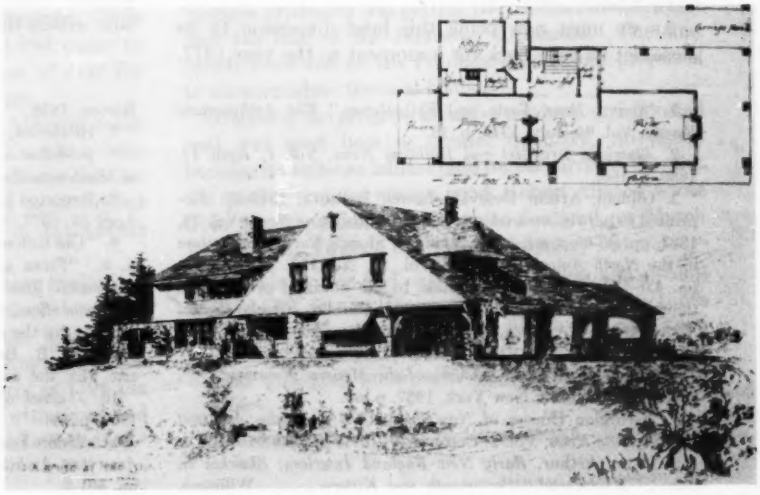

FIG. 6
House by the Sea.
John Calvin Stevens, 1885.

not long before his feeling for frame construction and for local materials, added to an undeniable natural gift, began to produce results which, while reflecting a fusion of Queen Anne and New England influences, were both new and personal. In a house built in 1884 (FIG. 4), we have a characteristic example of the mature Emerson. Its plan was unusually disciplined and compact, yet within its limits contained a series of interesting spatial relationships based on the use of diagonal vistas. On the exterior we see the effective use of horizontals, combined with buttress-like forms in local stone, and a projecting mass in frame construction over the main entrance. It is interesting as well as instructive to compare Emerson's house with W. G. Preston's study which appeared in the *American Architect and Building News* of 1885 (FIG. 5). Here, indeed, we have an extreme, though not uncharacteristic, example of that marvelous fusion of strange science and even stranger art that was characteristic of this period. As Paul Elmer More once put it, "Surprise and intensity are the least stable factors of pleasure—they pass quickly to satiety, and from satiety to disgust." American architecture of the seventies and eighties was altogether too full of surprises which, whatever their effect at the time, no longer surprise us today. Against this background Emerson's work stands out in bold contrast, and it is appropriate to include a few lines from the obituary notice which appeared in the *Journal of the American Institute of Architects* in 1918:

> Mr. Emerson was a native product of New England, delighting in ingenious contrivances and original inventions, filled with enthusiasm for whatever was spontaneous and natural, and abhorring conventions of every sort. He was the creator of the shingle country house of the New England coast and taught his generation how to use local materials without apology, but rather with pride in their rough homespun character.[10]

As we must now bring this brief discussion to its close, let us turn back for a moment to the year 1877. In this year J. Cleveland Cady, known to us chiefly as the architect of the Metropolitan Opera House, read a paper before the American Institute of Architects on the subject of the Dutch farmhouses of New Jersey:

> Let us look for a moment at the contrast that is continually presented to one passing through this part of the country. The Dutch houses are broad (seldom lofty); horizontal lines predominate; their roof masses are simple, expressive and often graceful. Moreover, the buildings are often singularly well adapted to their sites. The modern houses which one sees in contrast . . . are usually tall and gaunt, as if in their ambitious haste they had, like many precocious children, grown too fast for their strength . . .

Later, in speaking of the interiors, he goes on to add:

> As we sit in these rooms. . . we realize that they are not large, yet they seem extremely spacious; and we are led at once to investigate from whence this effect arises. The first assignable cause seems to be the low ceilings (about eight feet) which not only give an air of coziness but increase the breadth of the rooms; next we cannot but conclude that the very small trim, architraves, etc. must greatly increase this effect.[11]

As we glance at the Stevens sketch for a "House by the Sea" (FIG. 6), first published in 1885, we cannot fail to feel the import of Cady's remarks. While it may be that the twenty-nine-year-old Stevens never saw them, there can be no doubt that his work was the outgrowth of influences similar to those to which Cady referred. Yet there is more than conscious imitation, just as there is in the work of Emerson, whom Stevens took for his master. Here we seem to stand at the threshold of a recognizable departure from fixed architectural traditions, one which came by easy transition from Queen Anne and Neo-Colonial forms; one which, without laboring the point too much, we may say still falls within the long shadow of Norman Shaw.

COLUMBIA UNIVERSITY

1. "Queen Anne Taste and Estheticism," *The Architectural Review*, Vol. 94, July, 1943, p. 15.

2. *American Architect and Building News*, Vol. 7, April 17, 1880, p. 168.

3. Gilman, Arthur Delevan, Lowell Lectures, 1844-45. Reprinted in part in *American Architect and Building News*, Vol. 14, 1883, pp. 86-89 *et seq.* The review of Shaw's *Rural Architecture* in the *North American Review*, Vol. 58, No. 123, April, 1844, pp. 436-480, first called attention to the merit of pre-Revolutionary American architecture. See Hamlin, *Greek Revival Architecture in America*, Oxford University Press, New York, 1944, pp. 335-6.

4. Pevsner, Nikolaus, *Pioneers of the Modern Movement . . .* Frederick A. Stokes, New York, 1937, p. 66.

5. "Georgian Houses of New England," *American Architect and Building News*, Vol. 2, October 20, 1877, pp. 338-9.

6. Little, Arthur, *Early New England Interiors; Sketches in Salem, Marblehead, Portsmouth and Kittery . . .*, Williams, Boston, 1878.

7. Hitchcock, Henry-Russell, *American Architectural Books . . . published in America before 1895*, 3rd. rev. ed., University of Minnesota Press, Minneapolis, 1946.

8. Reported in *American Architect and Building News*, Vol. 2, April 28, 1877, pp. 133-4.

9. "Old Colonial vs. Old English Houses," *Ibid.*, Vol. 17, 1885, p. 3. "From an esthetic standpoint, the regularly recurring horizontal lines of clapboarding have a hard, monotonous, inartistic effect, which is rendered still worse at the angles of the building by the straight, severe edges of the corner boards . . ." (Signed) "R. Brown, Jr." These comments reflect in a concise way the architectural taste of the '70's and '80's.

10. *Journal of the American Institute of Architects*, Vol. 6, 1918, p. 89.

11. "Some Features of the Dutch Farm Houses of New Jersey," *American Architect and Building News*, Vol. 2, Dec. 15, 1877, pp. 401-2.

AMERICAN NOTES

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Old Custom House, 420 Chestnut Street, Philadelphia 6

Your Editor has for the first two numbers of this department used material available at Philadelphia, his own library and files being still in storage many miles away. We do not believe that Philadelphia is the only place in the world worth writing about, but it will take friends all over to give us national coverage.

• • •

We originally intended to write about early stoves—as well as coal—in this, our winter number. We have now decided to save our notes and wait for Josephine H. Peirce's new book, *Fire on the Hearth, A History of Heating Stoves* (Pond-Ekberg, Springfield), release of which has been delayed until next spring. This, we suppose, is the first book-length work on the subject since Henry C. Mercer's *Bible in Iron* (First Edition, 1914; Second, 1941). Early heating by coal was proved by an unexpected quantity of documentation and we have allowed it generous space as a new subject. The fixed equipment of the American house could use more study. What did the first gas fixtures look like?

For next summer's number we are considering notes on that great American institution, the piazza, *galerie* or porch. Contributions from our readers are in order. Other subjects coming up are metal roofing before the Civil War, especially as it affected the pitch of roofs, and the American log cabin.

EARLY HOUSE-WARMING BY COAL-FIRES

While searching the customs impost books of the Port of Baltimore your editor was astonished to discover a whole fleet of schooners doing practically nothing except haul up coal from the James River of Virginia. This was in the 1780's. A lot of other material came to light subsequently, proving that the use of coal for heating houses was nothing new, even then.

Most of our first Americans on the Atlantic coast began life in the English tradition. To those who came from the port cities of the old country, the use of "sea coal" was well known. It had been carried down from North Sea ports and used in London as early as the thirteenth century.[1]

The forests of North America in the very beginning, must have seemed limitless. But before long the woods disappeared from the edges of the new towns and coal brought over as ballast from England began to take its place in the seaports. As early as 1706 the coal deposits of Nova Scotia were eyed with envy and their outright seizure from the French was advocated.[2] At Boston in 1718 a committee was proposed "to Consider & make Enquiry abt Encourageing the bringing of Sea Coal into this town."[3] Hob grates of iron or brass became common and the coal of Scotland, Newcastle and Nova Scotia was burned in them.[4] In New York, by 1748, coal was considered a cheaper fuel than wood.[5] Ships sailing from England and needing ballast often went up to Newcastle and took on a load for that purpose. It sold for a good price on this side and was used "both for kitchen fires and in other rooms."[6] The difficulty and expense of disposing of ship's ballast ashore above high tide line—as required by law—was avoided by bringing something useful and selling it.[7]

Surprisingly enough, in what is now the United States, coal was first reported from the banks of the Illinois River in 1673 by Marquette and Joliet. Others saw it there soon afterwards.[8] Again the French must get the credit—for first mining and using American coal at the Huguenot settlement on the James River just above Richmond.[9] It was also found on the Ohio River by Virginians in 1742.[10] However, the use of American coal did not spread quickly, and as late as 1744, when he invented the "Pennsylvania Fireplace," that progressive and well-informed citizen Benjamin Franklin, was not aware that coal had yet been found in the American colonies.[11]

No earlier statistics have come to hand, but colonial records preserved in London trace bituminous coal shipments cleared from Virginia ports in the period 1758-1769. The first recorded was one of 24 tons sent to New York (1758); the largest cargo, 92 tons to Salem (1763). The best year was 1763 with a total of 1,122 tons shipped. The principal ports supplied were New York, Boston, Charleston (South Carolina), and Philadelphia. Some shipments went as far as Bermuda and the West Indies.[12] The chief difficulty of the Virginia producers was getting the product to tidewater past the falls of the James at Richmond. The first canals there and on the Potomac River were projected to accommodate the coal traffic.[13]

In spite of the progress in native production, imported coal was used here in greater quantity, no doubt because its value as ballast paid for its carriage.[14] But the quality was not always good. Robert Allason wrote from the Rappahannock River to Scotland on March 1, 1760 that Virginia coal was satisfactory but

> If Coals can be had easily would advise you to ship 40 or 50 Carts in Room of Ballast. They sometimes sell well, if they should not I will take off your hand for the use of [the] Store. Pray be cautious what kind you get, those with [the] least Sulphure are safest...[15]

Similarly, two merchants of Chestertown, Maryland a

few years later ordered a thousand bushels of coal but requested the master of the ship to be particular about the quality.[16]

During the Revolutionary War, with the trans-Atlantic supply cut off, coal became painfully scarce in Philadelphia. In an excess of patriotism reminiscent of the Boston Tea Party, a quantity of British coal had been tossed into the Delaware River. The local Committee of Safety had to appoint another committee to fish it out again. Later the price went sky-high and a house-to-house canvass was made to locate all supplies in the city.[17] The war encouraged the development of the James River coal fields. Baltimore and Philadelphia were great consumers of the mineral fuel which sold at the latter place for 1 *s.* 6 *d.* per bushel but was considered a luxury.[18]

But the importation of English coal, subject to a duty of four and a half cents per bushel, was later resumed and the Virginia mine operators claimed that they could not compete with it. They urged a protective tariff, stating that "an encouragement of the coal trade will constitute a nursery for seamen; will operate a saving of wood and timber, and prevent the money now paid for foreign coal, from going out of the country." Nevertheless in 1793 as many as 150 ships were then employed in the coasting trade.[19] In advertisements of the period we find the terms "house coal," "Virginia coal," "James River coal," and "English coal." Otherwise it is referred to as "sea coal," "fossil coal," "mineral coal," "stone coal," and "pit coal" in contradistinction to *char*coal, which was chiefly used in the manufacture of iron.

Dr. Franklin's iron fireplace had been a great success for its economy in burning wood. He later turned to a study of coal for warming houses. In 1763 at Philadelphia he had bought a coal grate for £8[20] and while in London devised a stove for burning coal. This stove—vase shaped—was based on experiments by a French inventor. It gave him great satisfaction and he later devised an unusual coal-burning grate while on his long stay in France. These inventions he wrote up at sea on his final return to America and published them under the title of "Description of a New STOVE for the Burning of Pitcoal, and consuming all its Smoke."[21]

Abigail Adams of Massachusetts, first hostess of the White House, left us a picture of the fuel crisis in the new capital on the Potomac. Most of the cord-wood bought to supply the twelve fireplaces had been used to dry out the walls of the mansion and winter was already closing in. "Surrounded with forests, can you believe that wood is not to be had, because people cannot be found to cut and cart it," she wrote to a friend. The household "had recourse to coals; but we

DR. FRANKLIN'S COAL STOVE

"The vase form was chosen as elegant in itself . . . completed in 1771, and used by me in London three winters, and one afterwards in America, much to my satisfaction." Dr. B. Franklin, "Description of a new STOVE, etc.," *Transactions of the American Philosophical Society*, Vol. II (Philadelphia, 1786), Plate 2, p. 71.

cannot get grates made and set. We have, indeed, come into *a new country*." Within a week, however, the situation had been saved by laying in two hundred bushels of coal.[22]

By the year 1808 nearly half a million bushels of coal were received annually at Philadelphia—mostly from Europe.[23] Samuel Breck noted in his journal a trip to town to buy a newly-invented iron grate for coal. Wood had become very dear and his farm had none to burn. After some experimenting he estimated the factors involved. He had found that he burned 3½ bushels per week in hard weather and 2½ in moderate, averaging three. Twenty-five weeks, he says, was "the period of burning fires in parlours."

For coal

25 (weeks) x 3 bushels = 75 bushels @ 45c = $33.75.

For wood

6 cords oak @ $5.50 = $33.75.

Judge Breck concluded that, at the summer price of 33c per bushel, coal "will do very well."[24]

At Pittsburgh coal was preferred to wood for household use as early as 1790[25] and ten years later the cloud of smoke over that place in fair weather reminded an Englishman of London.[26] Zadock Cramer wrote of the western river metropolis, "Fuel, that indispensable necessity of life, is so cheap here, that the poorest rarely suffer from the want of it. . .we do not see them shivering over a few lighted splinters, or pieces of bark

gleaned from the highways or torn from the fences in the skirts of the town." Mixed with this blessing, he had to admit, was the smoke and soot for which Pittsburgh was already famous; "even snow can scarcely be called white. . .The tall steeple of the court house was once painted white but alas! how changed."[27]

The discovery and use of Pennsylvania anthracite came in the nineteenth century. At first used only locally by blacksmiths, it defied all attempts to burn it for household use. In 1814 the first arkload was brought down from the Lehigh to Philadelphia and some of this was successfully burned at a wire mill at the Falls of the Schuylkill. One of the shipper-speculators afterwards wrote:

> . . . we had the greater difficulty to overcome of inducing the public to use our coal when brought to their doors, much as it was needed. We published handbills in English and German, stating the mode of burning the coal, either in grates, smiths' fires, or in stoves. Numerous certificates were obtained and printed from blacksmiths and others who had successfully used the anthracite. Mr. Cist formed a model of a coal-stove, and got a number cast. Together we went to several houses in the city, and prevailed on the masters to allow us to kindle fires of anthracite in their grates, erected to burn Liverpool coal.[28]

Ignorance and prejudice were gradually overcome. In 1829 Thomas W. Griffith of Baltimore wrote, "We receive by water great quantities of Coal and Fire-wood, of which the use is nearly equally divided."[29]

The moral of this story is: When you are restoring an early house, especially one in a seaport town, give consideration to the use of grates or stoves burning coal.[30] The Williamsburg Restoration had the courage to restore coal in the grates of the Governor's Palace, but the Museum of the City of New York took the peat out of a seventeenth century fireplace because "people asked too many questions."

ACKNOWLEDGEMENT: In the collection of this material the writer had helpful tips from Ruth W. Duncan, Arthur Pierce Middleton, Lewis M. Lawrence, Fiske Kimball, and Charles F. Montgomery.

1. Howard N. Eavenson, *The First Century and a Quarter of American Coal Industry*, Pittsburgh, 1942, 9. By the time of Queen Elizabeth coal smoke was so thick as to induce a measure prohibiting its use while Parliament was in session. (Albert Henry Smythe, ed., *The Writings of Benjamin Franklin*, New York, 1907, IX:434)] So dependent on this fuel had the capital become that many persons perished when the price became excessive in 1643. (J. Leander Bishop, *A History of American Manufacturers from 1608 to 1860*, 20.) Samuel Pepys, however, was experimenting with the amount of coal needed to warm his house as late as 1661. At that time the only coal known in America was in the beds of Nova Scotia. (*The Diary of Samuel Pepys*, (*Wheatley, ed.*), London, 1893-99. II: 103, VI: 95, 209, VII: 103.)

2. Marshall B. Davidson, "American House-Warming," *The Metropolitan Museum of Art Bulletin*, Vol. III, No. 7. (March, 1945), 182.

3. William H. Whitmore, ed., *A Report of the Record Commissioners of the City of Boston Records from 1700 to 1728*, Boston, 1833, 131. Five caldrons of sea coal were scheduled for loading in the first ships sent to Massachusetts Bay Colony, probably for the use of blacksmiths. Nathaniel B. Shurtleff, ed., *Records of the Governor and Company of the Massachusetts Bay in New England*, Boston, 1653, I: 23.

4. George Francis Dow, *The Arts & Crafts in New England, 1704 to 1775*, Topsfield, 1927, 225, 226, 231.

5. Peat dug in the New Jersey swamps had been burned in Dutch New York and later it was dug and used on Nantucket. J. Hector St. John, *Letters from an American Farmer*, London, 1783, 123. Alcon Chadwick, "Reminiscences of Old Podpis," *Proc. Nantucket Historical Society*, 1922, 85.

6. *Peter Kalm's Travels in North America* (Benson, ed.), New York, 1937, I: 135.

7. A study of the ballast laws of colonial America as related to imported brick is in preparation by your editor for an early issue of the *Maryland Historical Magazine*.

8. Eavenson, 286.

9. *Ibid.*, 29. In or before the year 1702.

10. *Ibid.*, 17.

11. Smythe, II: 271, 272. In 1748 Kalm wrote that coal had not yet been found in Pennsylvania, but that there were rumors of it elsewhere. Kalm, I: 47.

12. Eavenson, 32-34.

13. Bishop, 605. The James River canal was one of architect-engineer Latrobe's first jobs in America.

14. For tables of imports in 1768-1772 see Eavenson, 35.

15. *William Allason Letterbook, 1757-1770*, Allason Papers, ms., Virginia State Library.

16. Thomas and William Ringgold to Samuel Galloway of Annapolis and West River, May 28, 1766. *Galloway Papers, Ringgold Letters*, ms., New York Public Library.

17. Eavenson, 44-47. The chief need at this time was for the supply of the Brass Cannon Factory and otherwise for the manufacture of ordnance.

By the middle of the eighteenth century wood had become very scarce around Philadelphia, which then had over two thousand houses to warm. Much of it had been consumed in the burning of brick. The few nearby forest tracts left were being preserved for use in joiners' work and other valuable productions. The favorite local fuel was hickory, walnut and white and black oak and this was brought in to market by farmers from a great distance. Kalm, I: 50, 51.

18. J. Thomas Scharf, *History of Baltimore, City and County*, Phila., 1881, 386. Bishop, 605.

19. James Hardie, *The Philadelphia Directory and Register*, Phila., 1793, 216. *American State Papers, Finance I.* Washington, 1832, 553, 729.

20. Benjamin Franklin, *Domestic Accounts*, Vol. 7, ms., American Philosophical Society, (Nov. 5, 1763).

21. *Transactions of the American Philosophical Society*, Vol. II, Philadelphia, (1786), 57-74. In 1774 Franklin still wrote that "Pit-coal is found in many places and very good, but little used, there being plenty of wood." Smythe, VI: 222.

22. Charles Francis Adams, ed., *Letters of Mrs. Adams*, Boston,

1840. Letters to Mrs. Smith, Washington, Nov. 21, 27, 1800, 11: 241, 243. We have also heard that President Jefferson heated himself in the White House with Virginia coal.

23. *Eavenson*, 65. Coal was then valued at eighteen cents per bushel in Liverpool. *Ibid.*, 66.

24. *Recollections of Samuel Breck*, (H. E. Scudder, ed.), London, 1877, 295 (Dec. 9, 1807). Breck lived at Sweetbriar, built 1797, still standing in Fairmount Park on the Schuylkill.

25. Eavenson, 163.

26. *Ibid.*, 165.

27. By this time coal was being carried in the new steamboats down to river towns as far away as New Orleans. Eavenson, 175. Coal had been burned for household use at Pittsburgh as early as 1759. *Ibid.*, 22, 23.

28. Scharf and Westcott, *History of Philadelphia*, Phila, 1884, I: 578.

29. *Annals of Baltimore*, Baltimore, 1829, 291. By that time grates for burning Susquehannah coal were being advertised. *American & Commercial Daily Advertiser*, (Baltimore) January 1, 1824, 4.

30. We suspect, but cannot now prove, that grate fires in fireplaces, being elevated above the hearth, make for a taller opening to the fire chamber.

Eighteenth century coal grates are now rare, most of them seemingly have been burnt out and discarded. One specimen has recently been accessioned by the Henry Francis Dupont Winterthur Museum and another may be seen illustrated in the *Metropolitan Museum of Art Bulletin*, Vol. III: No. 7, (March, 1945), 178.

Besides the Jayne Building described in the October number, the acquisition area of the Independence National Historical Park Project in Philadelphia includes another century-old structure which was a pioneer of its kind. It is the Penn Mutual Life Insurance Building—a five-story corner building with two cast-iron façades practically intact. Its design requires appraisal as to its place in the development of American construction techniques.

We have consulted with Dr. Turpin C. Bannister of the University of Illinois and read his excellent sketch entitled "Some Early Iron Buildings in New York" (*New York History*, October, 1943). We also have at hand a photocopy of *Cast Iron Buildings: Their Construction and Advantages*, by James Bogardus, C. E., Architect in Iron. (Original at the Avery Library, Columbia University.)

From the above we learn that the first all-iron façade anywhere was designed by Architect John Haviland of Philadelphia and built at Pottsville, Pennsylvania in 1830. The first American iron façade fastened to an iron frame was that of James Bogardus' own plant in New York City, designed as early as 1847 and begun the following year. Of his first full-scale project Bogardus wrote in the third person:

> Whilst burdened with the care of his factory, and with limited means at his command, he had not only to superintend every detail of its construction, but to hear and answer daily, the same predictions of failure. One would not live in it, if he had it as a gift, for fear lest it would crush itself by its own weight; another would not, for fear of lighting; a third was sure that it was not perpendicular, and that sooner or later it would topple to the ground; and a fourth foretold, that if a fire should happen, it would melt the columns, and the whole would fall with one tremendous crash. Others declared, as the universal voice of science, that, in consequence of the expansion and contraction of the metal, it contained within itself the elements of early and rapid decay; and some even asserted that the experiment had already been made in England; that its disastrous failure had been attended with a great public calamity . . .

In spite of these dire predictions, Bogardus' building was a popular success and he was soon putting up others in cities as far away as New Orleans and Havana.

The Philadelphia example is within three years of the first of its type. It may be the oldest example still standing of this interesting adventure in American architectural history. Readers, do you know of any older?

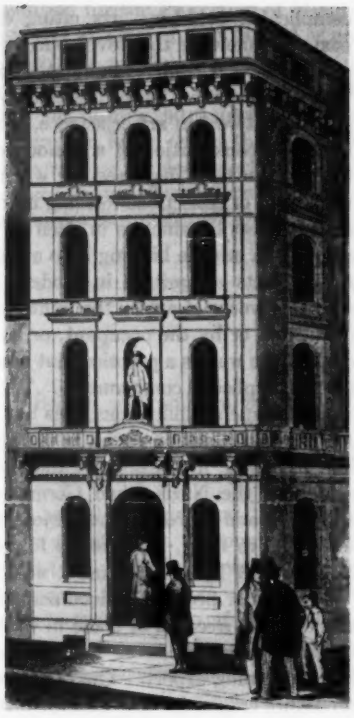
THE PENN MUTUAL BUILDING, PHILADELPHIA, 1850-51

In the year 1849 the Penn Mutual Life Insurance Company had just made its first division of surplus[1] and decided to erect an office building. A property at the northeast corner of Third and Dock Streets, in what was then the financial center of Philadelphia, was purchased and the building committee got a design from architect G. P. Cummings.[2]

After a study of the relative cost of brownstone and cast iron it was first planned that a contract with James Bogardus, famous New York iron constructor, be negotiated for one of the latter material.[3] Finally, however, a local man, Joseph Singerly of Philadelphia,[4] was authorized on April 2, 1850 to take the job at the rate of 6¼ cents per pound of iron for materials and erection of the two fronts. Architect Cummings was directed to supervise the work.[5]

Cast iron façades were quite new at that time and the novelty of the material caused some practical problems, as indicated by the following note in the *Public Ledger* for October 1, 1850.

> *Down Again.* — The iron building, at the corner of Dock and Third Streets, projected by the Penn Mutual Insurance Company, has been rather unfortunate, judging from the slow progress made. Some mistake in the castings, it is understood, delayed the iron work for several months, and now, after the



Penn Mutual Life Insurance Building, showing cast iron statute of Penn over entrance. *Gleason's Pictorial Drawing Room Companion* May, 1851, 53.

first story had been nearly all put up, it is discovered that the castings extended about three inches over the line of the adjoining property, on Third Street. The consequence is, that the whole front has to be taken down again for a modification, to fit it to the real size of the lot.

By two or three years, Cummings' design is not the first for a cast iron building in the United States, but it was the first in Philadelphia and it may have introduced some new details, if we can believe the author of *Philadelphia as It Is in 1852:*

> The mode of construction is dissimilar to any iron building in this country or Europe, many of the plates being not over one-fourth of an inch thick, and none over half an inch; the whole space occupied by the wall being less than seven inches. These plates are jointed and bolted together in a novel method, highly creditable to the skill of the contractor, Mr. J. SINGERLY, who has carefully carried out a design, improved by the patient effort of the architect, Mr. J. B. CUMMINGS, to construct an iron building without waste of material.[6]

Cummings' design—made for either stone or iron—was at the time described as in "the modern or florid Italian." It is interesting to compare with McArthur's Neo-Gothic Jayne Building going up at the same time. and just around the corner in the same block. One is reminded of the battle of styles in the case of the British Houses of Parliament a few years earlier and wonders what the architectural critics of Philadelphia were saying. It appearance, Cummings' building looked backward in style; McArthur's building, consciously or not, predicted the future. But while the Italianate building was admired for its structural originality, the Jayne building was well behind the advanced technology of the times.

The main part of the Penn Mutual building was substantially complete by the spring of 1851[7] and the company offices were elaborately furnished and equipped with furniture "of the most tasteful and substantial character."[8] Altogether, Cummings' work made a good impression. *Gleason's Pictorial Drawing Room Companion* for May, 1851 thought that:

> The advantage of this style of building, or rather of this material for building purposes, is yet to be tested; we see no good reason why it should not answer all the purposes of granite or brick, and it may possess many advantages over both. Philadelphia is the great metropolis of the iron State, and no fitter point could be chosen for the testing of iron as a building material.

1. J. Thomas Scharf and Thompson Westcott, *History of Philadelphia*, Phila., 1884, III: 2120. The Company had been chartered in 1847.

2. *Minutes of the Board of Trustees, ms., Archives of the Penn Mutual Life Insurance Company.* August 7, September 4, October 25, November 6, December 4, 19, 1849. February 5, 1850. (Courtesy, Editor Carroll Frey). Cummings appears as an architect in the Philadelphia directories for the years 1844-1863 inclusive.

3. *Ibid.*, December 19, 1849, February 5, 1850.

4. Joseph Singerly is listed in Philadelphia directories from 1850-1854 as "arch. & builder, Crown and Franklin."

5. *Minutes of the Board of Trustees*, April 2, 1850.

6. R. A. Smith, *Philadelphia as It Is in 1852*, Phila., 1852, 111.

7. On February 4, 1851 the Board urged early completion of the building, on May 6 the basement was ordered completed, on September 2 the upstairs rooms were ordered rented. The building committee was discharged on October 7 at its own request and thanks were voted to Architect Cummings "for the Beautiful design furnished, and for the able manner in which that design was carried out . . . under his supervision." *Minutes of the Board of Trustees.*

The 600-lb. cast iron statue of Penn, an excellent piece of modelling, was removed from its original niche in 1945 and is now in the lobby of the Penn Mutual Building, 530 Walnut Street, Philadelphia. A photograph of its removal may be seen in Dunlea Hurley, *Panorama of a Century*, Philadelphia, 1947.

8. Smith, 111.

BOOK REVIEWS

JOHN MCANDREW, *Editor*
Farnsworth Museum, Wellesley College

Charles De Visscher, "International Protection of Works of Art and Historic Monuments," Department of State publication 3590, reprinted from *Documents and State Papers*, June, 1949, pp. 821-871, Washington: U. S. Government Printing Office, 1949. 25c.

" 'It is as a member of this universal republic of the arts and sciences, and not as an inhabitant of this or that nation, that I shall discuss the concern of all parts in the preservation of the whole—a concern for civilization—for the advancement and progress of education and reason: in a word, for the improvement of the human race. Everything that can help toward this end belongs to all peoples; no one of them has the right to appropriate it for itself, or to dispose of it arbitrarily.' " Thus wrote Quatremère de Quincy in 1796, protesting the looting of Europe's art treasures by the victorious forces of Napoleon. It was in the eighteenth century that the concept was held that "war should, as far as possible limit its effects solely to the destruction of the enemy's armed forces." Not until the plundering of the Slavic countries by the Nazis was the world to witness so complete a return to barbarism on the part of a presumably highly civilized nation.

The writer of these essays is both a professor of international law and a judge on the International Court of Justice. A striking element of his discussion of the disposition of cultural objects held by a defeated nation is that legal possession, as the term is usually understood, does not always establish rightful possession. Instead, consideration must be given to the reassembling of the parts of a dispersed masterpiece, the preservation of a library in its entirety, or the placing of an object where it will be of the greatest significance in the study of a cultural pattern. A celebrated case is the return to Belgium of those panels of the altarpiece of the Mystic Lamb which had been acquired legally by Germany early in the nineteenth century. Of course, in this instance, the action was justified in part by the destruction of Belgian works of art by Germany in the First World War.

But where should such actions begin, and where should they end? Should the Elgin marbles be returned to the Acropolis, the Sistine Madonna to the church for which it was painted, or Berlin's Nofretete to Egypt? Should the Swiss be called upon to return to Guatemala the wooden lintel from Tikal now in Basel? There is no one answer to cover all cases. Time and means of acquisition must also enter into the complicated problem. By citing examples from the past and showing the developing contemporary point of view, De Visscher illuminates his conclusion that "modern practice tends undeniably to be based on genuine interest in art or science, whether when favoring the reconstitution of a famous work, the parts of which have been dispersed, or when affirming the inviolability of collections forming an organic whole, the completeness of which is in itself of world-wide value, apart from any tie binding it to a certain nation." As regards acts committed in modern warfare, "the removal of works of art by the military command during hostilities, or by the occupant, or by the victor at the close of the war, is a practice that modern international law has explicitly condemned. . ."

With some modifications, this has been used by the American occupation forces in Germany as an operating principle. For example, the Sterzing Altar, presented to the Nazis when Germany and Italy were still allies and therefore not subject to restitution, was sent back to Italy, presumably for return to the town in the South Tyrol for which it was painted.*

The author presents a documented discussion of restrictions on freedom of trade in works of art within a country, classification as national treasures, and the laws governing export. The problems and conflicts in precedure emphasize the need for international cooperation, good will, and legislation. Workable and mutually acceptable laws should prevent embarrassment arising from smuggling works of art from one country to another, assist a country in keeping the masterpieces of its national heritage, and also help to prevent stultifying prohibitions on the export of all objects of artistic worth. An appendix provides a draft of such an agreement.

De Visscher's discussion of the protection of historic buildings (and repositories of transportable cultural objects) seems at times academic when the real question is whether they will continue to exist at all. The preparation by different nations of official lists of buildings which they consider of primary cultural importance and the dissemination of this information throughout the world should do some good. During the last war the United States published extensive plans of enemy cities indicating which structures were considered of great artistic or historic value, and hence were to be spared aerial or other bombardment or means of destruction if possible. This information and accompanying orders, stemming to a large extent, it would appear, from the Draft International Convention and Draft

**Ed. Note:* It was in Rome this summer as part of the exhibition of Recovered Art, and is to be one of the main attractions of the new museum at Bolzano being arranged by Dr. Rasmo.

International Declaration for the Protection of Monuments and Works of Art in Time of War (added as an appendix to De Visscher's article) were effective in helping to preserve what was left after the actual fighting had ceased and during later phases of the occupation. And there can be no doubt that, despite the vicious destructiveness of modern warfare, many historic buildings were spared during hostilities because the combatants were aware of their great artistic or historic value.

EDWIN C. RAE—UNIVERSITY OF ILLINOIS

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D. Ware and B Beatty, with an intro. by J. Gloag. *A Short Dictionary of Architecture*, New York: Philosophical Library 1950? (though copyright 1945,) 109 pp. inc. 12 of diags. and 2 of bbl. $2.75.

A reliable dictionary would be a godsend to teachers and many writers in architecture. Though it could not and probably ought not to try to impose uniformity in the use of some terms—for example, *mediaeval*—it could purify the architectural air of confusions resulting from sloppy and shifting use of many common words of close but still not identical meaning such as *column-pier-post-pillar*, or *roof-vault-ceiling*. The preparation of an authoritative dictionary, or perhaps an architectural equivalent of Fowler's sharp *Modern English Usage*, and the possible resulting increase in standardization of terminology might be one of the most useful projects the SAH could undertake.

What one would want in such a dictionary would be an assurance that there was a reasonable completeness in the coverage of the terms chosen for definition, and that these definitions were 1) accurate, 2) complete, and 3) clear. It is exactly in these qualities that this new book is lamentably wanting.

Although such architecturally irrelevant terms as *aureole* and *manhole*, a curious abundance of plumbing terms and such pedantries as *pycnastyle* have been thought worthy of inclusion, one misses many standard terms in regular use by students of architecture; where are *cartouche, drum, hall church, Mannerist, ogive, opus reticulatum*, etc., or *plateresque, stressed skin*, or *tepidarium*, etc., etc., ?

The definitions are often far from accurate: on the first page alone, *abutment* is defined as masonry which supports weight, *acroterion* as a base for figures, and *ambulatory* is said to be "the cloisters surrounding the choir of a church." The definitions are often incomplete (as when an *attic* is "a room built within the sloping roof of a house" and no more) or they include too much (when a *beam* is "a horizontal structural member which carries a load"). And the definitions are often just not clear: "To cantilever is to employ the principle of the lever to carry a load," or, *distyle* is "the term applied to a portico with two columns only at one or both ends." Sometimes they are incorrect and misleading, as when *fanlight* is illustrated by a plain rectangular transom.

There is no point in continuing to point out more of the many shortcomings of this book. One may question, however, why an American publisher (and a very distinguished one in this case) chose to print a book so amateurish in its text, so narrowly—even provincially—British in its terminology, ushered in by an introduction containing such jarringly uninformed statements as "Although the Romans invented the arch, they used it merely as a structural convenience; it never affected the form of their buildings."

JOHN MCANDREW—WELLESLEY COLLEGE AND MASSACHUSETTS INSTITUTE OF TECHNOLOGY

S. A. H. NEWS

MEETINGS

Reaching the *Journal* only recently is a notice of the conference from December 11 to 20 of the Fifth Congress of Inter-American Municipal History at Lima, Peru. Among the sessions of special interest to us are "History of Colonial Art and Architecture," and "Urbanism and Architecture." The invitation originates from the Instituto Interamericano de Historia Municipal e Institucional, Cuba 316, La Habana, Cuba.

The annual meeting of the National Council for Historic Sites and Buildings was held in Washington, D. C. on October 19 and 20, with headquarters at its new offices in The Octagon House. Papers were given on Thursday afternoon at the National Gallery on preservation projects going on throughout the country. Friday's session was more informal, with questions addressed from the floor to a panel of experts, among whom was Vice-President Charles Peterson. Out of this came a proposal for the establishment of a permanent board of consultants to which local committees might resort for advice.

SAH itself goes to Washington on January 28 to 30, in conjunction with the College Art Association. Because of previous crowding of the schedule, the Directors voted last year to attempt two sessions for papers this time. One will be on Washington material, the other dealing with more diverse subjects. The official hotel will be the Statler.

MICROFILM PROJECT OF THE ART INSTITUTE AND THE UNIVERSITY OF ILLINOIS

Mr. John G. Replinger has been appointed through the University of Illinois as Executive Associate in charge of microfilming significant documents of the "Chicago School" at the Art Institute. The plan is to record working drawings and other pertinent material which can reveal the essential details of Chicago architecture. These bulky and rapidly disappearing papers will be deposited in microfilm form for use by scholars in the Burnham and Ricker libraries.

NEW MEMORIAL AWARD FOR ARCHITECTURAL WRITING

During November a committee from the Architectural League of New York is meeting to consider the Howard Myers Memorial Award. A group of friends of Mr. Myers, for many years the publisher and editor of *Architectural Forum*, have assembled a fund which they have entrusted to the Architectural League for the purpose of making cash awards of $500 each from time to time for the best written, most progressive and most influential architectural writing to be found in current periodical literature. Selections for this award will fall within the dates of August, 1947 to November, 1950.

FORMER PRESIDENT HONORED

Two signal honors have been conferred on our former president and director, Kenneth John Conant. At a ceremony held in London early this year, Professor Conant was made an Honorary Fellow of the Society of Antiquaries. The second event occured at Dijon in early November at the ceremony celebrating the new building campaign of the University of Dijon. He was awarded an honorary degree from the University of Dijon for his outstanding contribution to the study of Romanesque architecture. Fortunately, he was able to make a quick flight to Dijon in order to receive the degree in person.

LOCAL SOCIETIES

The Louisiana Landmarks Society, the founding of which we announced in the last issue, has already collaborated with the City of New Orleans to organize an exhibition of the works of James Gallier to commemorate the centennial of the completion of the New Orleans city hall. An accompanying lecture on the career of the architect was given by John Canaday on November 15 at the St. Charles Hotel.

On November 17 the New York group of the SAH listened to an evening talk on the "Architectural Origins of the Dome of the Rock" by Mr. Edward De Zurko at the Institute of Fine Arts.

MEMBERS' PRESERVATION ACTIVITIES

A number of members have been endeavoring to save fragments of our architectural heritage over the past half year. Last spring Professor Talbot Hamlin of Columbia made a plea in behalf of our very active New York Chapter to the New York City Planning Commission to save the north side of Washington Square. In June Professor Carroll Meeks of Yale engaged in correspondence with the City of New Haven over the preservation of the tower of its Victorian city hall. Bartlett H. Hayes, Jr., Director of the Addison Gallery at Andover, had pictures taken of the facade of the old "Southern" skyscraper between 61st and 62nd Streets in New York just before its demolition. Anyone interested in photographs of this early Italian villa curiosity should write to Mr. Alan E. Hulse, 540 Fort Washington Avenue, New York City.

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